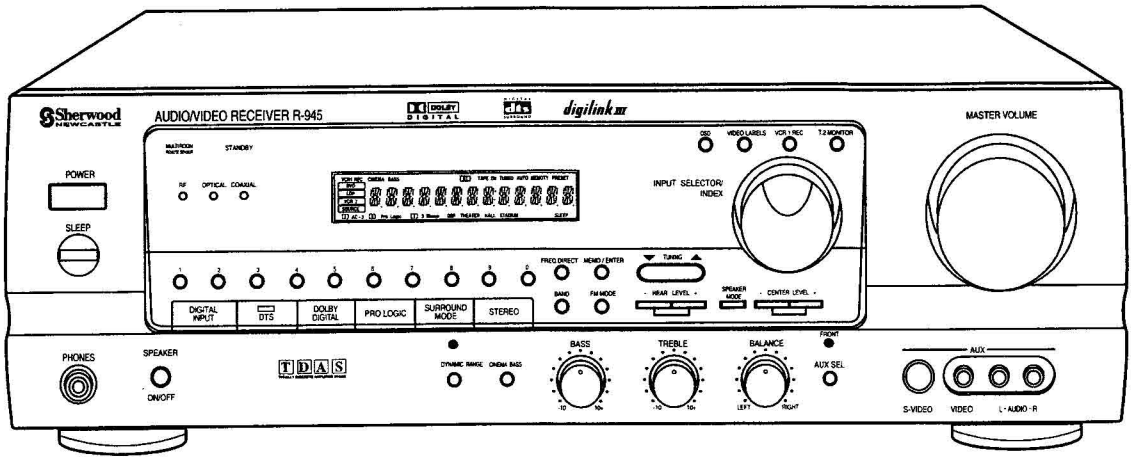
SERVICE MANUAL

R-945R/R-945RDS

DOLBY DIGITAL AC-3/DTS AUDIO/VIDEO RECEIVER



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SAFETY PRECAUTIONS

WARNING

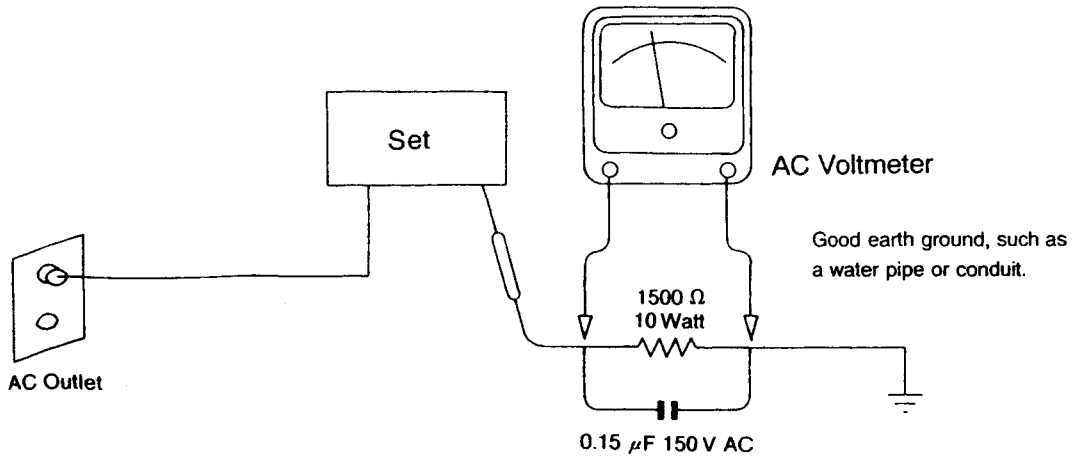
Before servicing this unit, familiarize yourself with the following precautions:

1. Many electrical and mechanical parts in this chassis have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltge, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by ⚠ in the schematic diagram and the parts list.

   Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the exposed metal parts of the cabinet, such as terminals, screw heads, and metal overlays, to be sure the set is safe to operate danger of electrical shock. Plug the AC line cord directly into a 120 V AC outlet (120 V AC version only). (Do not use a line isolation transformer during this check.) Be sure your AC voltmeter has a sensitivity of 5000 Ω per volt or greater. Then connect a 1500 Ω 10 watt resistor, paralleled by a 0.15 μF 150 V AC capacitor, between a known good earth ground (such as a water pipe, or conduit) and the exposed metalic is parts, one at a time. Measure the AC voltage across the combination of a 1500 Ω resistor and a 0.15 μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metalic part. Voltage measured must not exceed 0.75V RMS. This corresponds to 0.2 mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

At 5000 Ω per volt or greater sensitivity,
the reading should not exceed 0.75 V.



Place the probe on each exposed metalic part.

SPECIFICATIONS

☞ FRONT AMP SECTION

Measuring methods are based on IHF and IEC standard 268-3

Measurements conditions, unless otherwise noted :

* Output resistive load = 8ohms / Both channel driven
* Tone (Bass, Treble), Balance, EQ control : Center Position, Other SW's : OFF
* Norminal input level : 3.5mV for MM, 0.5mV for MC. 200mV for general purpose inputs
* Power figures should be kept minimum 10 min. between 15 and 35℃
* Terminator : 100ohm for MC, 1kohm for MM and general purpose inputs
* Power Supply : 230V/50Hz, 120V/60Hz
* Filter : IHF-A filter
* R/O : Rated Output
* SUB WOOFER : NO
* SPKR LEVEL : ALL 0dB

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Input Sensitivity	CD	1kHz		mV	200±30	200±20
		MM	1kHz		mV	3.5±0.5	3.5±0.3
		MC	1kHz		mV		
		MIC	1kHz		mV		
2	Channel Balance	CD	1kHz	R/O TO -40dB	dB	±3	±2
3	Damping Factor	CD	1kHz				
4	Residual Noise	CD	1kHz	VOL Min	mV	≤1	
			1kHz	VOL Max	mV		
5	Total Harmonic Distortion	CD	20Hz	R/O	%	≤0.2	≤0.09
		(500mV)	1kHz	〃	%	≤0.2	≤0.09
			20kHz	〃	%	≤0.3	≤0.2
6	Continuous Average Power at 0.2% THD	CD	20Hz	8 Ohms	W	100	102
			1kHz	〃	W	100	102
			20kHz	〃	W	100	102
7	IMD(SMPTE)	CD	60Hz=4	R/O	%	≤0.1	≤0.07
			7KHz=1	1W	%	≤0.1	≤0.07
8	S/N Ratio, IHF-A Filter	CD	1kHz	R/O	dB	≥88	≥93
			1kHz	1W	dB		
		MM	1kHz	R/O	dB	≥68	≥72
			1kHz	1W	dB		
		MC	1kHz	R/O	dB		
		(0.5mV)	1kHz	1W	dB		
9	Channel Separation	CD	100Hz	R/O -3dB	dB	≥45	≥55
			1kHz	〃	dB	≥45	≥55
			10kHz	〃	dB	≥40	≥45
10	Function Crosstalk	CD → AUX	1/10kHz	R/O -3dB	dB	≥60/40	≥65/45
		CD → MM	1/10kHz	〃	dB	≥55/35	≥60/40
		MM → CD	1/10kHz	〃	dB	≥60/40	≥65/45
		→	1/10kHz	〃	dB		
11	Frequency Response (-3dB)	CD	dB	1W	Hz~KHz	20~70	10~80
12	Tone Control ±10dB	CD	100kHz	1W	dB	±10±2	±10±1
			10kHz	〃	dB	±10±2	±10±1
13	Sub Woofer Out (1ch input)	CD (200mV)	30Hz	M-Vol Max	V	1.2±0.5	1.2±0.3
14	Phono Equalization	PHONO	100Hz	Tape Out	dB	+13.1±1.5	+13.1±1
			10kHz	〃	dB	-13.7±1.5	-13.7±1.5
15	HeadPhone 0utput H/P = 64ohms	CD	1kHz	R/O	mV		
		(150mV)	1kHz	〃	mV		

16	Input Overload at 0.5% THD	CD	1kHz	S/P Out	mV		
		MM	1kHz	Tape Out	mV	≥120	≥140
		MC	1kHz	〃	mV		
		MIC	1kHz	〃	mV		
17	FTC Power 20Hz~20kHz	CD	20Hz	R/O	W		
	at ( )% THD		1kHz	〃	W		
			20kHz	〃	W		
18	DIN Power at 1% THD	CD	1kHz	R/O	W		
19	Dynamic Power Output	CD	1kHz	( ) ohms	W		
	20 cycle On, 480 cycle Off						
20	Power Bandwidth -3dB	CD		R/O	Hz~kHz		
21	Slew rate	CD	1kHz	R/O	V/usec		
22	Slew Factor	CD (500mV)					
23	Input Impedance	CD	1kHz		kohm		
		MM	1kHz		kohm		
		MC	1kHz		kohm		
		MIC	1kHz		kohm		
24	Cinema Bass (120V/60Hz Only)	CD	80Hz	1W	dB	6±2	6±1

☞ AM SECTION

Measuring methods in confirmity with IEC standard 315

Measurements condition AM-MW : Radio frequency = 1000/999kHz, Audio frequency = 400Hz

LW : Radio frequency = 207kHz, Audio frequency = 400Hz

Reference level = 5mV/m, 10mV/m on 50ohms

* Test Point : MW,
* TP1= 600kHz, TP2 = 1000kHz, TP3 = 1400kHz
* LW TP1 = 162kHz, TP2 = 207kHz, TP3 = 252kHz

NO	DESCRIPTION		UNIT	LIMIT	NOMINAL
1	Tuning Cover Range Low ~ High MW (D/K/RDS)		kHz	522~1611	
	〃 (A)		kHz	520~1710	
	Step (A)	Auto/Man.	kHz	10	
	Step (D/K/RDS)	Auto/Man.	kHz	9	
2	Usable Sensitivity	MW TP1	uV/m	≤800	≤500
	S/N = 20dB	TP2	uV/m	≤800	≤500
		TP3	uV/m	≤800	≤500
3	S/N Ratio (A/D/RDS)	MW	dB	≥35	≥40
	S/N Ratio (K)		dB	≥40	≥45
4	Total Harmonic Distortion (D/K/RDS)		%	≤1.5	≤1.0
	〃 (A)		%	≤2	≤1.0
5	Over Load Distortion 5mV 80% MOD.		%	≤10	≤5
6	Frequency Response at -6dB	MM	Hz	100~2K	80~2.2K
7	Selectivity 10kHz/9kHz	MW	dB	≥20	≥25
8	AGC Figure of merit	Input = 100mV, -10dB	dB	≥50	≥55
9	Image Rejection	MW = TP3	dB	≥30	≥35
10	Whistle Modulation Input=1mV/m	21F	%	≤15	≤10
11	Auto Stop Level		uV/m	800(±6dB)	800(±5dB)
12	Tuned Level		uV/m	800(±6dB)	800(±5dB)
13	Output Level (D/A/RDS)		mV	150±50	150±30
	Output Level (K)		mV	120±50	120±30

☞ FM SECTION

Measuring methods in confirmity with IEC standard 315

Measurements condition Audio frequency = 1KHz

* Reference level = 1mV on (75Ω) FM : Radio frequency = 98.0MHz,
* FM : Radio frequency = 98.0MHz (D/RDS), Radio frequency = 98.1MHz (A/K)
* Deviation : Mono = ±75KHz, Stereo = ±67.5KHz±7.5KHz (A,K)
  Mono = ±40KHz, Stereo = ±40KHz±7.5KHz (D/RDS)
* Test Point : TP 1 = 90.1MHz, TP2 = 98.1 MHz, TP 3 = 106.1MHz (A,K)
  TP 1 = 90.0 MHz, TP 2 = 98.0 MHz, TP 3 = 106.0 MHz (D/RDS)
* Filter = B.P.F at Stereo

NO	DESCRIPTION		UNIT	LIMIT	NOMINAL
1	Tuning Range (A/K)	Low~High	MHz	87.5~107.9M	
	〃 (D/RDS)			87.5~108M	
	Step (A/K)	Auto/Man.	kHz	200	
	〃 (D/RDS)			100/50	
2	Usable Sensitivity	TP1	dBf	≤23.2	≤20.2
	S/N = -30dB (A/K)	TP2	dBf	≤23.2	≤20.2
	S/N = -26dB (D/RDS)	TP3	dBf	≤23.2	≤20.2
3	Full Limiting Sense	Output = -3dB	dBf	≤17.2	≤15.2
4	Auto Stop Level		dBf	31.2±5	31.2±3
5	Auto Scan Error (A/K)		kHz	±20	±25
	〃 (D/RDS)		kHz	±15	±20
6	S/N Ratio	Mono	dB	≥65	≥70
	IHF-A Filter	Stereo	dB	≥60	≥65
7	Total Harmonic Distortion	Mono	%	≤0.5	≤0.3
		Stereo	%	≤0.8	≤0.5
8	50dB Quieting Sensitivity (A/K)	Mono	dBf	≤27.2	≤23.2
	46dB Quieting Sensitivity (D/RDS)	Stereo	dBf	≤48.3	≤45.3
9	Channel Separation (A/K)	100Hz	dB	≥35	≥40
		1kHz	dB	≥40	≥45
		10kHz	dB	≥30	≥35
	Channel Separation (D/RDS)	100Hz	dB	≥32	≥37
		1kHz	dB	≥37	≥42
		10kHz	dB	≥27	≥32
10	Frequency Response at ±1.5dB		Hz	20~12.5K	10~14K
11	Spurious Response (A/K)		dB	≥70	≥80
	Spurious Response (D/RDS)		dB	≥80	≥90
12	IF Rejection	TP1	dB	≥70	≥80
13	Image Rejection (A/K)	TP3	dB	≥60	≥65
	〃 (D/RDS)	〃	dB	≥70	≥80
14	AM rejection Ratio		dB	≥47	≥52
15	Capture Ratio		dB	≤2.5	≤2
16	Alt CH Selectivity (A/K) ±400KHz		dB	≥42	≥47
	Alt CH Selectivity (D/RDS) ±300KHz			≥42	≥47
17	Output Level Mono		mV	500±150	500±100

☞ REAR AMP SECTION

Measurements conditions : Input level Dolby 500mV, DSP mode 800mV, DSP mode signal (L+R)

Rear level max., Master volume adj. Delay time 20ms.

NO	DESCRIPTION		INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Power output 1% THD		CD	1kHz	8ohms	W	≥90	≥93
2	Total Harmonic Distortion		CD	1kHz	1W	%	≤1	≤0.7
3	S/N RATIO	DOLBY	CD		R/O	dB	≥55	≥63
	IHF-A FILTER	THEATER	CD		"	dB	≥55	≥63
		HALL	CD		"	dB	≥55	≥63
		STADIUM	CD		"	dB	≥55	≥63
		CHURCH	CD		"	dB	≥55	≥63
4	FRE RES.(Only Dolby) ± 3dB		CD	1kHz	1W	Hz~kHz	120~6	100~7

☞ CENTER AMP SECTION

Measurements conditions : Input level 500mV, SPKR mode : Large, Center level 0dB, Master volume adj,

Sub : Yes

NO	DESCRIPTION		INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Power output at 0.3% THD		CD	1kHz	8ohms	W	≥90	≥93
2	Total Harmonic Distortion		CD	1kHz	1W	%	≤0.3	≤0.2
3	S/N RATIO, IHF-A Filter		CD		R/O	dB	≥55	≥60
4	Frequency Response	Large	CD		1W	Hz~kHz	20~18K	15~20K
	Dolby Mode	Small	CD		1W	Hz~kHz	160~18K	140~20K

☞ VIDEO SECTION (230V/50Hz Only)

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Output Level at 75 ohms	VCR1(1Vp-p)	1MHz		Vp-p	1 ± 0.2	1 ± 0.1
2	Frequency Response	"	1MHz		Hz~MHz	DC~6	DC~6.3
3	S/N RATIO	"	1MHz		dB	40	45
4	Crosstalk	"	1MHz		dB	40	45

☞ C-VIDEO SECTION (120V/60Hz Only)

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Output Level at 75 ohms	DVD		Grey Scale (100%)	Vp-p	1.0 ± 3dB	
2	Frequency Response (-3dB)	"		Multiburst	MHz	4.2	
3	S/N Ratio	"	3.58MHz	Color Bar	dB	≥40	≥45
4	Crosstalk	"	3.58MHz	"	dB	≥40	≥45

☞ S-VIDEO SECTION (120V/60Hz Only)

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Y : Output Level at 75ohms	DVD		Grey Scale (100%)	Vp-p	1.0 ± 3dB	
	C : Output Level at 76ohms	"		"	Vp-p	0.286 ± 3dB	
2	Y : Frequency Response (-3dB)	DVD		Multiburst	MHz	7.0	
	C : Frequency Response (-3dB)	"		"	MHz	3.58	
3	S/N Ratio (Y and C)	DVD	3.58MHz	Color Bar	dB	≥40	≥45
4	Crosstalk (Y and C)	DVD	3.58MHz	"	dB	≥40	≥45

☞ AC-3 SECTION

Measurements conditions,unless otherwise noted : Input Function : LD
Digital Input Mode : LD RF
Speaker Mode : Center : Large, Sub-Woofer : Yes
Main Vol Position : 1 Vrms Output Position
Trim Vol Position : All "0dB"
Test Point : Pre-out
Test Disc : Dolby Test LD Version 1.0
Center, Rear Dealy : 0 ms

No	Description		Signal	Input	Chapter	Unit	Limit	Nominal
1	Output Level Main Vol Level : "58" Position		1kHz	0dB	38	V	0.9±0.3	0.9±0.2
		Measurement	L	C	R	LS	RS	SW
			30Hz	0dB	18	V	3.0±0.8	3.0±0.5
		Measurement	L	C	R	LS	RS	SW
2	Output Level at Min.Vol.		1kHz	0dB	38	mV	≤0.2	≤0.15
		Measurement	L	C	R	LS	RS	SW
			30Hz	0dB	18	mV	≤0.2	≤0.15
		Measurement	L	C	R	LS	RS	SW
3	S/N Ratio Pre Out :	100mV, "A" weighted	1kHz	-20dB	6	dB	≥60	≥65
		Measurement	L	C	R	LS	RS	SW
		1V, Unweighte	30Hz	0dB	18	dB	≥60	≥65
		Measurement	L	C	R	LS	RS	SW
4	T.H.D	Pre-Out : 100mV	1kHz	-20dB	6	%	≤0.5	≤0.3
		Measurement	L	C	R	LS	RS	SW
		Pre-Out : 1V	30Hz	0dB	18	%	≤0.3	≤0.2
		Measurement	L	C	R	LS	RS	SW
5	Channel Separation	L	1kHz	0dB	8	dB	Other Channel	
		Measurement	L	C	R	LS	RS	SW
		C	1kHz	0dB	10	dB	≥60	≥65
		Measurement	L	C	R	LS	RS	SW
		R	1kHz	0dB	12	dB	L ◀- - ▶ R	
		Measurement	L	C	R	LS	RS	SW
		LS	1kHz	0dB	14	dB	≥50	≥55
		Measurement	L	C	R	LS	RS	SW
		RS	1kHz	0dB	16	dB	ALL ◀- ▶ Sub-Woofer	
		Measurement	L	C	R	LS	RS	SW
		SW	30Hz	0dB	18	dB	≥30	≥35
		Measurement	L	C	R	LS	RS	SW
6	Frequency Response at M-Vol Level :"50"	Sub-Woofer : Yes, Front : Small	30Hz (1kHz)	0dB	20 (38:ref)	dB	≤-15	≤-20
		Measurement	L	C	R	LS	RS	SW
		Center : Small, Rear : Small	1kHz (30Hz)	0dB	38 (20:ref)	dB	≤-30	≤-35
		Measurement	L	C	R	LS	RS	SW
		Sub-Woofer : No, Center : Large	30Hz (1kHz)	0dB	20 (38:ref)	dB	8.5±1.5	8.5±1
		Measurement	L	C	R	LS	RS	SW
7	Dialog Normalization Main Vol Level : "50" Position		1kHz	0dB	43	dB	-10dB±1	-10dB±0.5
		Measurement	L	C	R	LS	RS	SW
			30Hz	0dB	43	dB	-10dB±1	-10dB±0.5
		Measurement	L	C	R	LS	RS	SW
8	Down Mix Level Main Vol Level : "50" Position	AC-3 Mode						
		Measurement	L	C	R	LS	RS	SW
		Stereo Key : ON	1kHz	0dB	38	dB	-3.2±0.5	-3.2±0.3
		Measurement	L	C	R	LS	RS	SW
		Sub-Woofer : No						
		Measurement	L	C	R	LS	RS	SW

No	Description		Signal	Input	Chapter	Unit	Limit	Nominal
9	Dynamic Range	Main Vol Level : "50" Position	1kHz	0dB	38	dB	-22≤±2	-22≤±1
		Measurement	L	C	R	LS	RS	SW
		Sub-Woofer : Yes	30Hz	0dB	18	dB	±1	±0.5
		Measurement	L	C	R	LS	RS	SW
10	Channel across Level, Main Vol Level "58" Position	C -> L,R / Center 0dB Setting / Center : No						
			1kHz	0dB	10	dB	-3±1	-3±0.5
		Measurement	L	C	R	LS	RS	SW
		LS -> L / LS 0dB Setting / Rear : No						
			1kHz	0dB	14	dB	-3±1	-3±0.5
		Measurement	L	C	R	LS	RS	SW
		RS -> R / RS 0dB Setting / Rear : No						
			1kHz	0dB	16	dB	-3±1	-3±0.5
		Measurement	L	C	R	LS	RS	SW
		Sub-Woofer -> L/R / Sub 0dB Setting / Sub : No						
			30Hz	0dB	18	dB	-6.5±2	-6.5±1
		Measurement	L	C	R	LS	RS	SW
11	LFE Signal across level Main Vol Level "50" Position	L/C/R/LS/RS -> Sub Out (1), Sub : Yes						
			30Hz	0dB	20	V	1.8±0.5	1.8±0.3
		Measurement	L	C	R	LS	RS	SW
		L/C/R/LS/RS -> Sub out (2), (1) : 0dB, Stereo : On, Sub : Yes						
			30Hz	0dB	20	dB	-11±2	-11±1
		Measurement	L	C	R	LS	RS	SW
		C/LS/RS -> L/R (3), (2) : 0dB, Stereo : On, SUB : No						
			30Hz	0dB	20	dB	-5.5±3	-5.5±2
		Measurement	L	C	R	LS	RS	SW
12	LFE signal across Level Main Vol Level "50" Position	L/C/R/LS/RS/LFE -> Sub Out (1), Sub : Yes						
			30Hz	0dB	22	V	2.5≤±0.8	2.5≤±0.5
		Measurement	L	C	R	LS	RS	SW
		L/C/R/LS/RS/LFE -> Sub Out (2), (1) : 0dB, Stereo : On, Sub : Yes						
			30Hz	0dB	22	dB	-11≤±2	-11≤±1
		Measurement	L	C	R	LS	RS	SW
		C/LS/RS/LFE -> L/R (3), (2) : 0dB, Stereo : On, Sub : No						
			30Hz	0dB	22	dB	-6.5≤±3	-6.5≤±2
		Measurement	L	C	R	LS	RS	SW
13	Down Mix Frequency Reponse Main Vol Level : "50" Position	AC-3 Mode Stereo Key : ON Sub-Woofer : NO	30kHz	0dB	20(38:ref)	dB	±1	±0.5
		Measurement	L	C	R	LS	RS	SW

☞ DTS SECTION

Mesurements conditions, unless otherwise noted : Input function : CD

Digital Input Mode : CD Optical or Coaxial

Speker Mode : Center : Large, Sub-Woofer : Yes Test Point : Pre-out

Trim Vol Position : All "0dB" Test Disc : DTS Set-Up Disc

No	Description		Signal	Input	Chapter	Unit	Limit	Nominal
1	Output Level Main Vol Level : "58" Position		1kHz	0dB	6	V	0.15±0.05	0.15±0.03
		Measurement	L	C	R	LS	RS	SW
			100Hz	0dB	7	V	0.7±0.2	0.7±0.1
		Measurement	L	C	R	LS	RS	SW

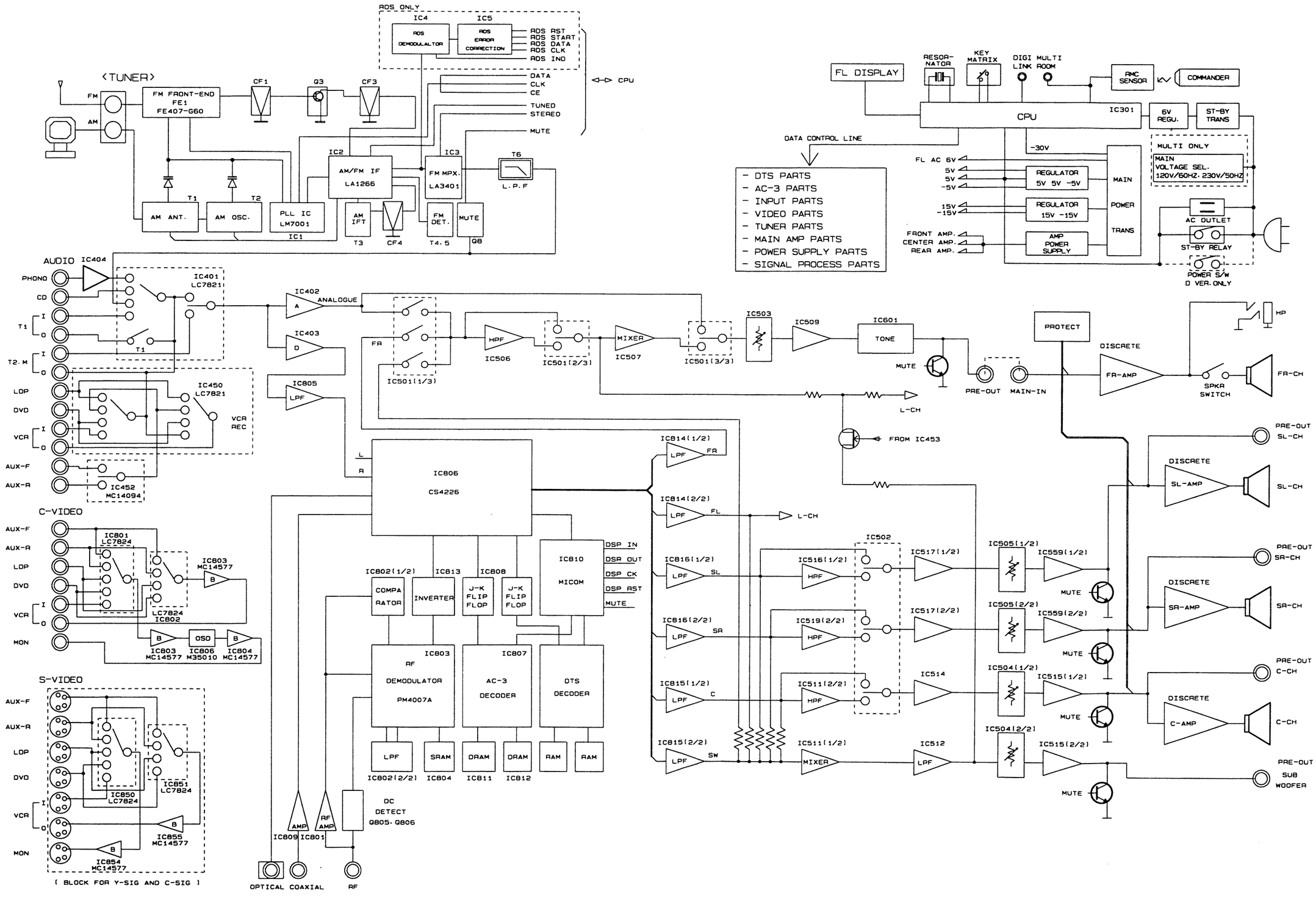
☞ BASS CAPABILITY OUTPUT LEVEL

No	Description	Spkr Mode	Sub Mode	Signal	Input	Chapter	Unit	Limit	Nominal
1	Analog Stereo Mode Main Vol. level "60" posistion. Input : 200mV	F: Large	Yes	30Hz			mV	100±20	100±20
		Measurement		L	C	R	LS	RS	SW
		F: Large	Yes	30Hz			mV	220±30	220±20
		Measurement		L	C	R	LS	RS	SW
		F: Large	No	30Hz			mV	100±20	100±20
		Measurement		L	C	R	LS	RS	SW
		F: Small	Yes	30Hz			mV	8.5±2	8.5±1
		Measurement		L	C	R	LS	RS	SW
		F: Small	Yes	30Hz			mV	220±30	220±20
		Measurement		L	C	R	LS	RS	SW
		F: Small	No	30Hz			mV	8.5±2	8.5±1
		Measurement		L	C	R	LS	RS	SW
2	Dolby-Digital AC-3 mode main Vol. Level "50" position. Input Function : LD Digital input : LD RF Test point : Pre-Out Test disc : Dolby test LD version 1.0 Center, Rear Delay : 0ms	F : Large	Yes	30Hz	0dB	20	mV	350±50	350±30
		Measurement		L	C	R	LS	RS	SW
		F : Large	Yes	30Hz	0dB	20	V	1.9±0.3	1.9±0.2
		Measurement		L	C	R	LS	RS	SW
		F : Large	No	30Hz	0dB	20	mV	950±150	950±100
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	30Hz	0dB	20	mV	27±5	27±3
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	30Hz	0dB	20	V	1.9±0.3	1.9±0.2
		Measurement		L	C	R	LS	RS	SW
		F : Small	No	30Hz	0dB	20	mV	37±8	37±5
		Measurement		L	C	R	LS	RS	SW
		C : large	Yes	30Hz	0dB	20	mV	350±50	350±30
		Measurement		L	C	R	LS	RS	SW
		C : Small	Yes	30Hz	0dB	20	mV	60±15	60±10
		Measurement		L	C	R	LS	RS	SW
		C : No	Yes	30Hz	C → L/R	20	dB	-6.5±1	-6.5±1
		Measurement		L	C	R	LS	RS	SW
		C : No	Yes	30Hz	C → SW	20	dB	4.5±1	4.5±0.5
		Measurement		L	C	R	LS	RS	SW
		C : No	No	30Hz	C → L/R	20	dB	-2.0±1	-2.0±0.5
		Measurement		L	C	R	LS	RS	SW
		S : Large	Yes	30Hz	0dB	20	mV	350±50	350±30
		Measurement		L	C	R	LS	RS	SW
		S : Small	Yes	30Hz	0dB	20	mV	28±5	28±3
		Measurement		L	C	R	LS	RS	SW
		S : No	Yes	30Hz	S → L/R	20	dB	-6.5±2	-6.5±1
		Measurement		L	C	R	LS	RS	SW
		S : No	Yes	30Hz	S → SW	20	dB	2.5±1	2.5±0.5
		Measurement		L	C	R	LS	RS	SW
		S : No	No	30Hz	S → L/R	20	dB	-4.0+1	-4.0±0.5
		Measurement		L	C	R	LS	RS	SW

No	Description	Spkr Mode	Sub Mode	Signal	Input	Chapter	Unit	Limit	Nominal
3	Dolby-Prologic Mode Main Vol. level "60" position. Encoder input : 30mV Used 4-point Encoder	F : Large	Yes	30Hz			mV	110±20	110±10
		Measurement		L	C	R	LS	RS	SW
		F : Large	Yes	30Hz			mV	120±20	120±10
		Measurement		L	C	R	LS	RS	SW
		F : Large	No	30Hz			mV	110±20	110±10
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	30Hz			mV	8.5±2	8.5±1
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	30Hz			mV	120±20	120±10
		Measurement		L	C	R	LS	RS	SW
		F : Small	No	30Hz			mV	12±2	12±1
		Measurement		L	C	R	LS	RS	SW
		C : large	Yes	30Hz			mV	110±20	110±10
		Measurement		L	C	R	LS	RS	SW
		C : Small	Yes	30Hz			mV	19±2	19±2
		Measurement		L	C	R	LS	RS	SW
		C : No	Yes	30Hz	C→L/R		dB	-3.0±1	-3.0±0.5
		Measurement		L	C	R	LS	RS	SW
		C : No	Yes	30Hz	C→SW		dB	3.5±1	3.5±0.5
		Measurement		L	C	R	LS	RS	SW
		S : Large	Yes	30Hz			mV	78±20	78±10
		Measurement		L	C	R	LS	RS	SW
		S : Small	Yes	30Hz			mV	6.0±2	6.0±1
		Measurement		L	C	R	LS	RS	SW
4	DTS-Mode Main Vol. level "58" Position. Input function : CD Input : Optical, Coaxial	F : Large	Yes	100Hz		7	V	0.15±0.05	0.15±0.03
		Measurement		L	C	R	LS	RS	SW
		F : Large	Yes	100Hz		7	V	0.7±0.2	0.7±0.1
		Measurement		L	C	R	LS	RS	SW
		F : Large	No	100Hz		7	V	0.35±0.05	0.35±0.03
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	100Hz		7	V	0.1±0.05	0.1±0.03
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	100Hz		7	V	0.7±0.2	0.7±0.1
		Measurement		L	C	R	LS	RS	SW
		F : Small	No	100Hz		7	V	0.13±0.05	0.13±0.03
		Measurement		L	C	R	LS	RS	SW
		C : large	Yes	100Hz		7	V	0.15±0.05	0.15±0.03
		Measurement		L	C	R	LS	RS	SW
		C : Small	Yes	100Hz		7	V	0.12±0.03	0.12±0.01
		Measurement		L	C	R	LS	RS	SW
		S : Large	Yes	100Hz		7	V	0.15±0.05	0.15±0.03
		Measurement		L	C	R	LS	RS	SW
		S : Small	Yes	100Hz		7	V	0.1±0.05	0.1±0.03
		Measurement		L	C	R	LS	RS	SW

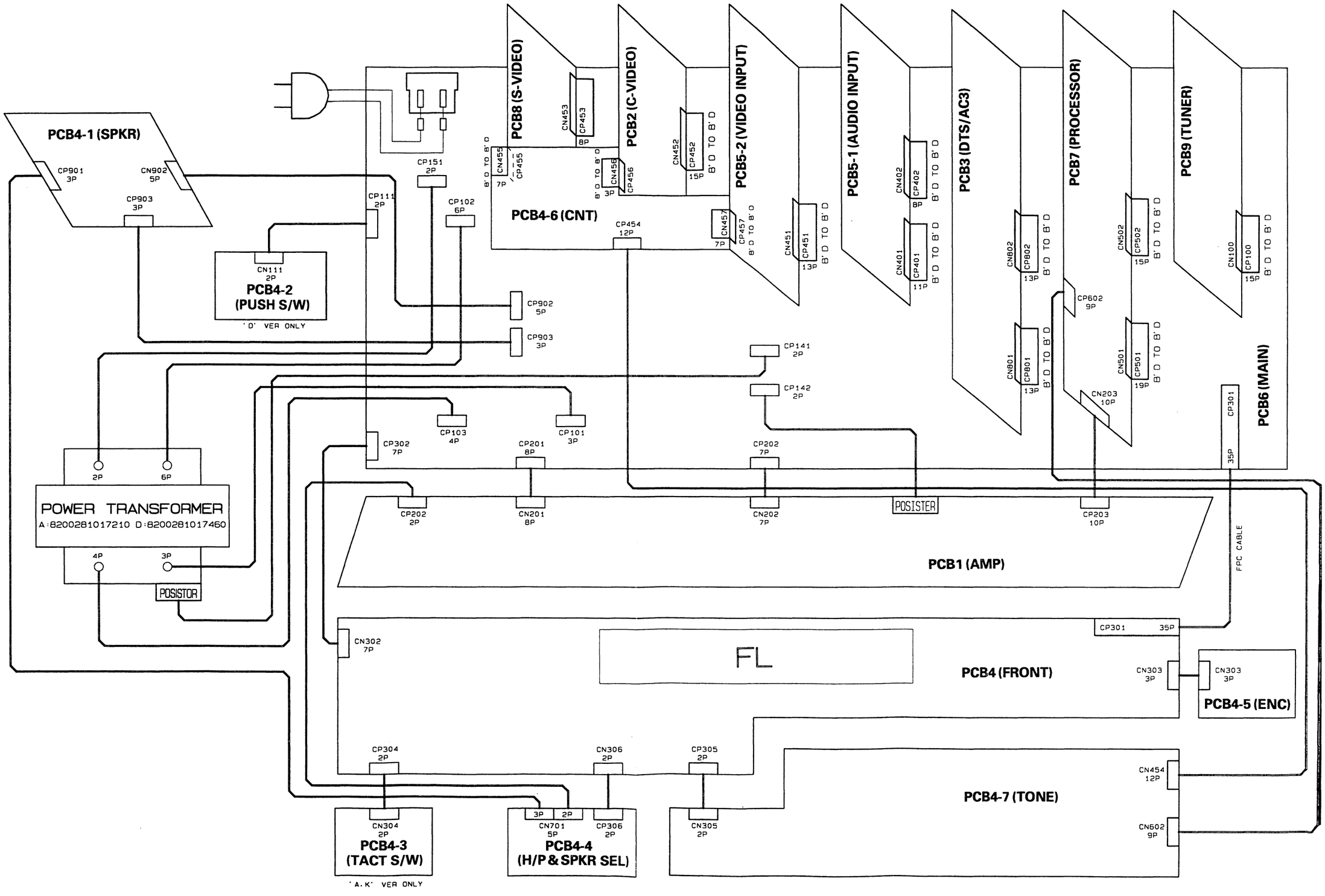
BLOCK DIAGRAM

Model No. : R-945R/R-945RDS



WIRING DIAGRAM

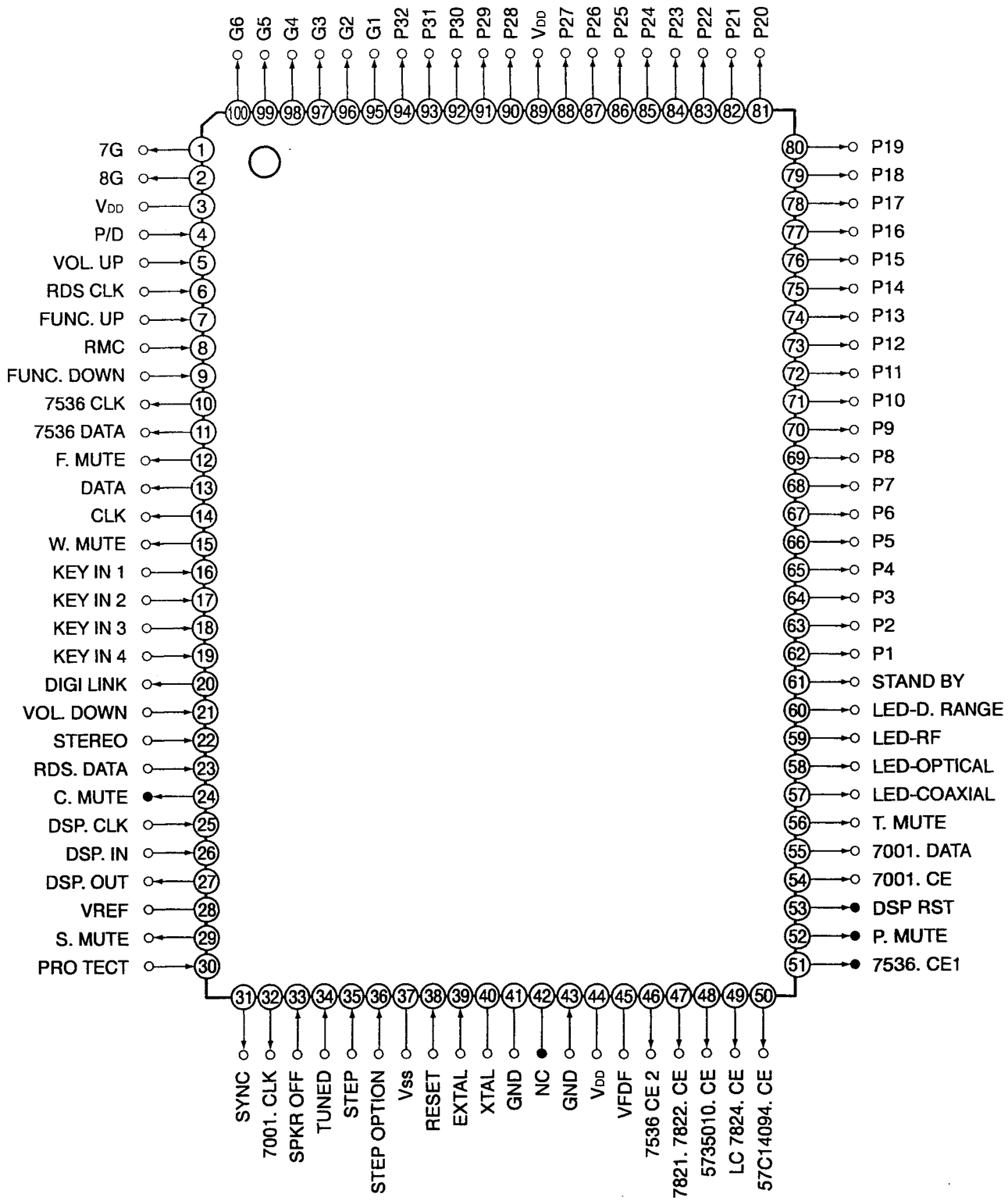
Model No. : R-945R/R-945RDS



CIRCUIT DESCRIPTION

IC301 : CXP82860-127Q

1. Pin Description

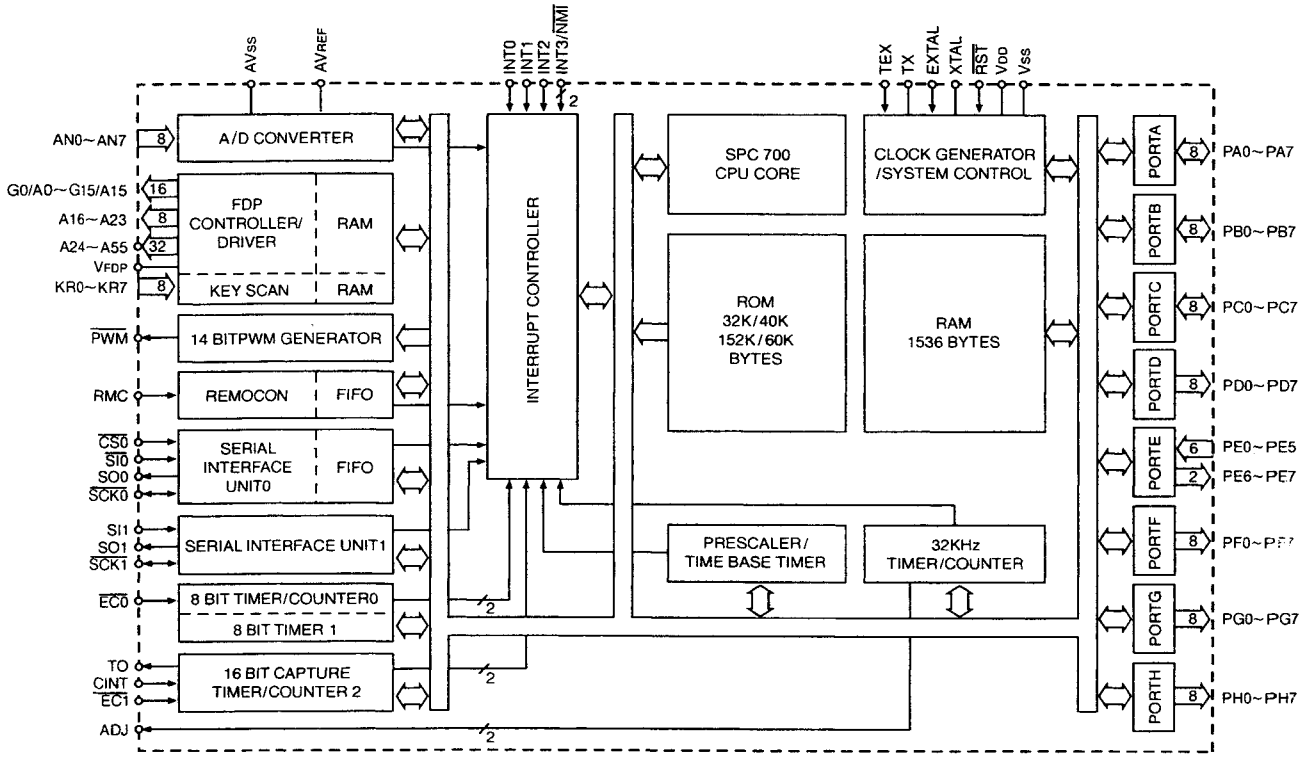


2. Main CPU Pin Functions

n No.	Symbol	Description
1~2	7G~8G	Grid signal output for FIP.
3	VDD	+5V power supply.
4	P/D	Input for power down.
5	VOL. UP	Input for main volume up.
6	RDS CLK	Clock signal output for TDA7330.
7	FUNC. UP	Input for main function up.
8	RMC	Input for remocon data.
9	FUNC. DOWN	Input for main function down.
10	7536CLK	Clock signal output for LC7536.
11	7536DATA	Data signal output for LC7536.
12	F. MUTE	Output for front channel mute. (At "H", it is active.)
13	DATA	Data signal output for LC821.
14	CLK	Clock signal output for LC7821 and LC7822.
15	W. MUTE	Output for subwoofer mute. (At "H", it is active.)
16~19	KEY IN1~4	Data input for key scan.
20	DIGI LINK	Input/Output for controling digi-link.
21	VOL. DOWN	Input for main volume down.
22	STEREO	Input for detecting "Stereo" condition.
23	RDS. DATA	Input for RDS data of TDA7330.
24	C. MUTE	Ouput for center channel mute. (At "H", it is active.)
25	DSP. CLK	Clock signal input from IC810. (uPD78044, pin 9)
26	DSP. IN	Data signal input from IC810. (uPD78044, pin 11)
27	DSP. OUT	Data signal output to IC810. (uPD78044, pin 10)
28	VREF	Reference voltage. (Connected to +5V, Not VDD.)
29	S. MUTE	Output for surround channl mute. (At "H", it is active.)
30	PROTECT	Input for detecting "Protection" condition.
31	SYNC	Synchronization signal output for M35010 and BA7046.
32	7001. CLK	Clock signal output for LM7001.
33	SPK OFF	Input for detecting "Speaker Switch is Off" condition.
34	TUNED	Input for detecting "Tuned" condition. (At "L", it is active.)
35	STEP OPTION	Input for selecting the frequency ranges steps of FM and AM.
36	SET OPTION	Input for selecting set. (5V : RDS Receiver, 0V : Receiver)
37	VSS	This pin provides the ground potential.

Pin No.	Symbol	Description
38	RESET	Input for reseting the CPU. (At "L", it is active.)
39	EXTAL	Input for 10MHz crystal oscillator.
40	XTAL	Output for 10MHz crystal oscillator.
41	G	Ground.
42		Not Used!
43	G	Ground.
44	VDD	+5V power supply.
45	VFDF	-30V power supply for FIP.
46	7536EC2	Chip enable signal output to LC7536. (Center,Rear and Woofer CH.Electric Vol.)
47	7821,7822CE	Chip enable signal output to LC7821, LC7822.
48	M35010CE	Chip enable signal output to M35010.
49	LC7824CE	Chip enable signal output to LC7824.
50	MC14094CE	Chip enable signal output to MC14094CE.
51	7536CE1	Chip enable signal output to LC7536. (Front CH. Electric Vol.)
52	P. MUTE	Output for ST-BY Amp Mute. (At "H", it is active.)
53	DSP RST	Reset signal output to IC14 (uPD 78044, pin 17)
54	7001 CE	Chip enable signal output to LM7001.
55	7001 DATA	Data signal output for LM7001.
56	T. MUTE	Output for tuner mute. (At "H", it is active.)
57	LED-COAXIAL	Output to drive COAXIAL LED. (At "H", it is active.)
58	LED-OPTICAL	Output to drive OPTICAL LED. (At "H", it is active.)
59	LED-RF	Output to drive RF LED. (At "H", it is active.)
60	LED-D.RANGE	Output to drive Dynamic Range LED. (At "H", it is active.)
61	STAND BY	Output to drive power Relay & Stand-By LED. (At "H", it is active.)
62~70	P1~P9	Segment signal output for FIP.
71~80	P10~P19	Segment signal output for FIP and data output for key scan.
81~88	P20~P27	Segment signal output for FIP.
89	VDD	+5V power supply.
90~94	P28~P32	Segment signal output for FIP.
95~100	1G~6G	Grid signal output for FIP.

3. Block Diagram



4. Key Matrix

KEY CHECK	KEY IN1 PIN16	KEY IN2 PIN17	KEY IN3 PIN18	KEY IN4 PIN19
KEY SCAN0 PIN71	SLEEP/ ST-BY	DIGITAL INPUT	1	POWER (ST-BY)
KEY SCAN1 PIN72	PTY SELECT	DISPLAY	SEARCH	
KEY SCAN2 PIN73	AC-3	DTS	SURROUND MODE	PRO-LOGIC
KEY SCAN3 PIN74	4	3	2	5
KEY SCAN4 PIN75	EON-PTY			EON-DA
KEY SCAN5 PIN76	MEMORY ENTER	TUNE DOWN	0	FREQUENCY
KEY SCAN6 PIN77	7	8	9	6
KEY SCAN7 PIN78	TUNE UP	FM MODE	REAR LEVEL DW	REAR LEVEL UP
KEY SCAN8 PIN79	BAND	DYNAMIC RANGE	STEREO	CINEMA BASS
KEY SCAN9 PIN80	CENTER LEVEL DW	CENTER LEVEL UP		SPKR MODE
KEY SCAN10 PIN81	OSD	VCR1 REC	TAPE2 MONITOR	VIDEO LABEL

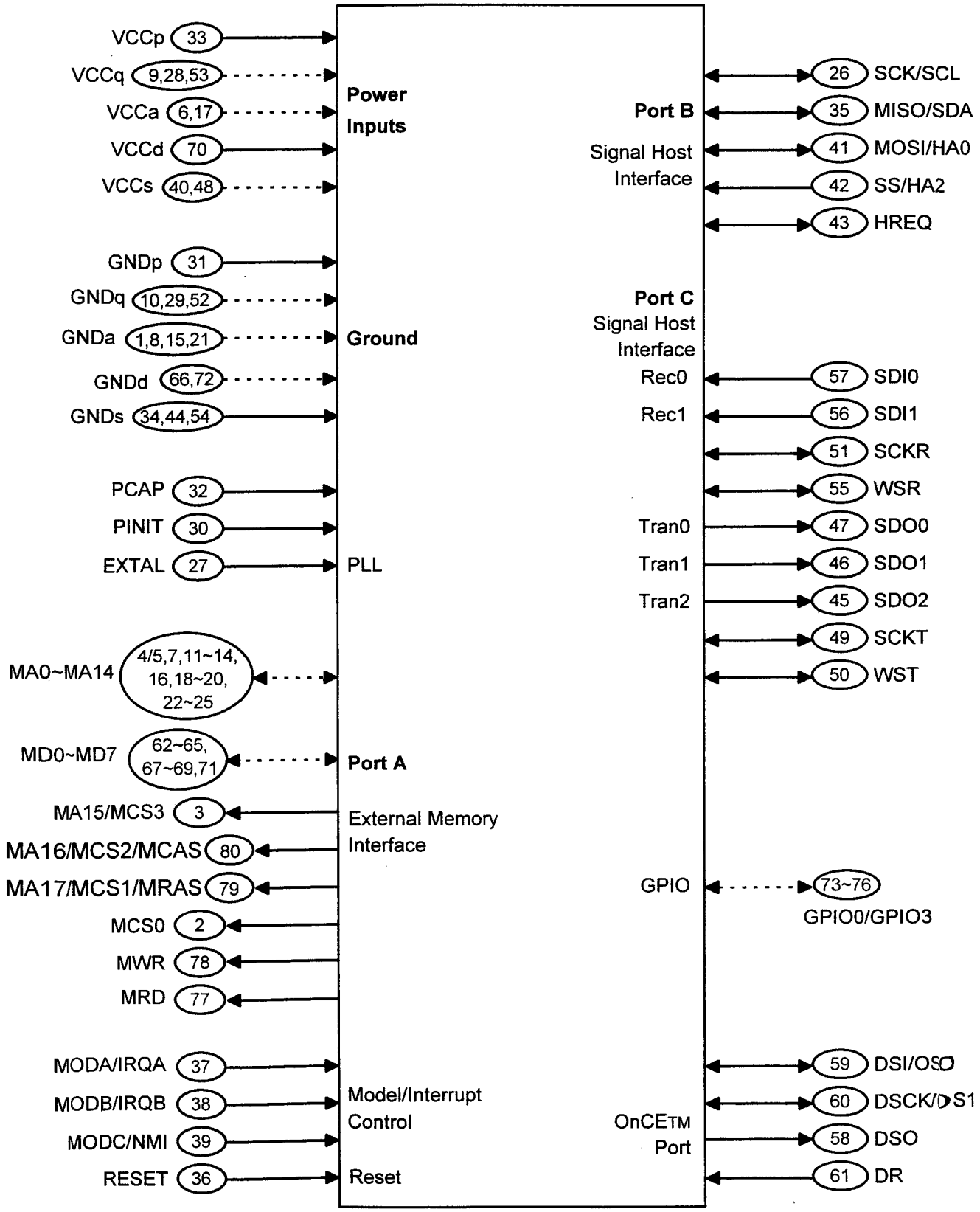
IC14 : UPD78042

2-1. Sub CPU Pin Functions

Pin No.	Symbol	Description
1~7		Not Used!
8	VDD	+5V power supply.
9	DSPCK	Clock signal output to IC301. (CXP82860, pin 25)
10	DSPOUT	Data signal input from IC301. (CXP82860, pin 27)
11	DSPIN	Data signal output to IC301. (CXP82860, pin26)
12~13		Not Used!
14	S1OCK	Clock signal output to IC1 (DSP56009) and IC4 (CS4226).
15	S1ODAOUT	Data signal output to IC1 (DSP56009) and IC4 (CS4226).
16	S1ODAIN	Data signal input from IC1 (DSP56009) and IC4 (CS4226).
17	RESET	Reset signal input from IC301 (CXP82860, pin 53).
18	P74	Not Used!
19	P73	Not Used!
20	AVSS	Ground.
21	SRST	Reset signal output to IC4 (CS4226).
22	AN16	Not Used!
23	AN15	Strobe signal output to IC4 (CS4226).
24	AC3/DTS	Data signal output to IC6 (74HC157).
25	MUTE	Output for all channel mute. (At "L", it is active.)
26~27		Not Used!
28	44~48FS	Sampling rate control port. (At "H", it is 48kHz mode, At "L", it is 44.1kHz mode)
29	AVDD	+5V power supply.
30	AVREF	+5V power supply.
31	XT1	Not Used!
32	XT2	Not Used!
33	VSS	This pin provides the ground potential.
34	X1	Input for 4.19MHz crystal oscillator.
35	X2	Output for 4.19MHz crystal oscillator.
36	GPIO 0	Output for DSP mode. (At "H", it is active.)
37		Not Used!
38	RF-CTL	IC11 (PM4007) OSC control port. (At "H", it is OSC-OFF. At "L", it is OSC-ON.)
39	DIS-OK-IN	Data signal input to IC18. (DSP56009, pin74)
40	VCCS	Ground.
41	M-SS	Chip enable signal output to IC1. (MC56009)
42	M-RST	Reset signal output to IC1. (MC56009)
43	M-HREQ	Host request port from IC1. (MC56009)
44	TEST	Test tone retry. (At "L", it is active.)
45	OPSENSE	Input for detecting "Optical Input". (At "L", it is active.)
46	COSENSE	Input for detecting "Coaxial Input". (At "L", it is active.)
47	PCMSENSE	Input for detecting "AC-3 Data" and "PCM Data". (At "L", it is active.)
48	IC	Ground.
49~51		Not Used!
52	VDD	+5V power supply.
53~70		Not Used!
71	VLOAD	Ground.
72~80		Not Used!

IC1,18 : 56009 => SIGNAL /CONNECTION DESCRIPTIONS

3-1. Pin Discription



3-2. PIN FUNCTION

☞ 1-1. SIGNAL GROUPINGS ALLOCATIONS

Functional Group	Number of Signals
Power (VCC)	9
Ground (GND)	13
Phase Lock Loop (PLL)	3
External Memory Interface (EMI)	29
Interrupt and Mode control	4
Serial Host Interface (SHI)	5
Serial Audio Interface (SAI)	9
General Purpose Input/Output (GPIO)	4
On-Chip Emulation (OnCE) port	4
Total	80

☞ 1-2. POWER INPUTS

Power Name	Description
VCCp	PLL Power - VCCp provides isolated power for the Phase Lock Loop (PLL).
VCCq	Quiet Power - VCCq provides isolated power for the internal processing logic.
VCCa	Address Bus power - VCCa provides isolated power for sections of the address bus I/O drivers.
VCCd	Data Bus Power - VCCd provides isolated power for sections for the data bus I/O drivers.
VCCs	Serial Interface Power - VCCs provides isolated power for the SHI and SAI.

☞ 1-3. GROUNDS

Ground Name	Description
GNDp	PLL Ground - GNDp is ground dedicated for PLL use.
GNDq	Quiet Ground - GNDq provides isolated ground for the internal processing logic.
GNDa	Address Bus Ground - GNDa provides isolated ground for sections of the address bus I/O drivers.
GNDd	Data Bus Ground - GNDd provides isolated ground for sections of the data bus I/O drivers.
GNDs	Serial Interface Ground - GNDs provides isolated ground for the SHI and SAI.

☞ 1-4. CLOCK AND PLL SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
EXTAL	Input	Input	External Clock/Crystal This input should be connected to an external clock source.
PCAP	Input	Input	PLL Filter Capacitor This input is used to connect a high quality (high "Q" factor) external capacitor needed for the PLL filter.
PINIT	Input	Input	PLL Initialization (PINIT) - During the assertion of hardware During the assertion of hardware reset, the value on the PINIT line is written into the PEN bit of the PCTL register.

☞ 1-5. EXTERNAL MEMORY INTERFACE (EMI)

Signal Name	Signal Type	State during Reset	Signal Description
MA0~MA14	Output	1-6	**Memory Address Lines 0-14** The MA0-MA10 lines provide the multiplexed row/column addresses for DRAM accesses.
MA15	Output	1-6	**Memory Address Line 15 (MA15)** This line functions as the non-multiplexed address line 15.
MCS3			**Memory Chip Select 3 (MCS3)** For SRAM accesses, this line functions as memory chip select 3.
MA16	Output	1-6	**Memory Address Line 16 (MA16)** This line functions as the non-multiplexed address line 16 or as memory chip select 2 for SRAM accesses.
MCS2			**Memory Chip Select 2 (MCS2)** For SRAM access, this line functions as memory chip select 2.
MCAS			**Memory Column Address Strobe (MCAS)** This line functions as the Memory Column Address Strobe (MCAS) during DRAM accesses.
MA17	Output	1-6	**Memory Address Line 17 (MA17)** This line functions as the non-multiplexed address line 17.
MCS1			**Memory Chip Select 1 (MCS1)** This line functions as chip select 1 for SRAM accesses.
MRAS			**Memory Row Address Strobe (MRAS)** This line also functions as the momory Row address strobe during DRAM accesses.
MCS0	Output	1-6	**Memory Chip Select 0** This line functions as memory chip select 0 for SRAM accesses.
MWR	Output	1-6	**Memory Write Strobe** This line is asserted when writing to external memory.
MRD	Output	1-6	**Memory Read Strobe** This line is asserted when reading external memory.
MD0-MD7	Bidi-hectional	Tri-stated	**Data Bus** These signals provide the bidirectional data Bus for EMI accesses.

☞ 1-6. EMI STATES DURING RESET AND STOP STATES

Signal	Operating Mode			
	Hardware Reset	Software Reset	Individual Reset	Stop Mode
MA0-MA14	Driven High	Previous State	Previous State	Previous State
MA15	Driven High	Driven High	Previous State	Previous State
MCS3	Driven High	Driven High	Driven High	Driven High
MA16	Driven High	Driven High	Previous State	Previous State
MCS2	Driven High	Driven High	Driven High	Driven High
MCAS:				
DRAM refresh disabled	Driven High	Driven High	Driven High	Driven High
DRAM refresh disabled	Driven High	Driven High	Driven High	Driven High
MA17	Driven High	Driven High	Previous State	Previous State
MCS1	Driven High	Driven High	Driven High	Driven High
MRAS:				
DRAM refresh disabled	Driven High	Driven High	Driven High	Driven High
DRAM refresh disabled	Driven High	Driven High	Driven High	Driven High
MCS0	Driven High	Driven High	Driven High	Driven High
MWR	Driven High	Driven High	Driven High	Driven High
MRD	Driven High	Driven High	Driven High	Driven High

☞ 1-7. INTERRUPT AND MODE CONTROL SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
MODA	Input	Input (MODA)	**Mode Select A** - This input signal has three functions: · to work with the MODB and MODC signals to select the DSP's initial operating mode. · to allow an external device to request a DSP interrupt after internal synchronization, and · to turn on the internal clock generator when the DSP is in the stop processing state, causing the DSP to resume processing. MODA is read and internally latched in the DSP when the processor exits the Reset state.
IRQA			**External Interrupt Request A (IRQA)** The IRQA input is a synchronized external interrupt request.
MODB	Input	Input (MODB)	**Mode Select B** - This input signal has two functions: · to work with the MODA and MODC signals to select the DSP's initial operating mode, and · to allow an external device to request a DSP interrupt after internal synchronization. MODB is read and internally latched in the DSP when the processor exits the Reset state.
IRQB			**External Interrupt Request B (IRQB)** The IRQB input is a synchronized external interrupt request.

☞ 1-7. INTERRUPT AND MODE CONTROL SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
MODC	Input, edge-triggered	Input (MODC)	**Mode Select C** - This input signal has two functions: · to work with the MODA and MODB signals to select the DSP's initial operating mode, and · to allow an external device to request a DSP interrupt after internal synchronization. MODC is read and internally latched in the DSP when the processor exits the Reset state.
NMI			**Non-Maskable Interrupt Request** The NIMI input is a negative-edge-triggered external interrupt request.
RESET	Input	Active	**RESET** This input causes a direct hardware reset of the processor.

☞ 1-8. SERIAL HOST INTERFACE (SHI) SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
SCK	Input or Output	Tri-stated	**SPI Serial Clock (SCK)** The SCK signal is an output when the SPI is configured as a master, and a Schmitt-trigger input when the SPI is configured as a slave.
SCL	Input or Output		**I² C Serial Clock (SCL)** SCL carries the clock for bus transactions in the I² C mode.
MISO	Input or Output	Tri-stated	**SPI Master-In-Slave-Out (MISO)** When the SPI is configured as a master, MISO is the master data input line.
SDA	Input or Output		**I² C Serial Data and Acknowledge (SDA)** In I² C mode, SDA is a Schmitt-trigger input when receiving and an open-drain output when transmitting.
MOSI	Input or Output	Tri-stated	**SPI Master-Out-Slave-In (MOSI)** Then the SPI is configured as a master, MOSI is the master data ouput line.
HA0	Input		**I² C Slave Address 0 (HA0)** This signal uses a Schmitt-trigger input when configured for the I² C mode.
SS	Input	Tri-stated	**SPI Slave Select (SS)** This signal is an active low Schmit-trigger input when configured for the SPI mode.
HA2	Input		**I² C Slave Address 2 (HA2)** This signal uses a Schmitt-trigger input when configured for the I² C mode.
HREQ	Input or Output	Tri-stated	**Host Request** This signal is an active low Schmitt-trigger input when configured for the Master mode, but an active low output when configured for the Slave mode.

☞ 1-9. SERIAL AUDIO INTERFACE (SAI) RECEIVER SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
SDI0	Input	Tri-stated	**Serial Data Input 0** While in the high impedance state, the internal input buffer is disconnected from the pin and no external pull-up is necessary.
SDI1	Input	Tri-stated	**Serial Data Input 1** While in the high impedance state, the internal input buffer is disconnected from the pin and no external pull-up is necessary.
SCKR	Input or Output	Tri-stated	**Receive Serial Clock** SCKR is an output if the receiver section is programmed as a master, and a Schmitt-trigger input if programmed as a slave.
WSR	Input or Output	Tri-stated	**Word Select Receive (WSR)** WSR is an output if the receiver section is configured as a master, and a Schmitt-trigger input if configured as a slave.

☞ 1-10. SERIAL AUDIO INTERFACE (SAI) TRANSMITTER SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
SDO0	Output	Driven High	**Serial Data Output 0 (SDO0)** SDO0 is the serial output for transmitter 0.
SDO1	Output	Driven High	**Serial Data Output 1 (SDO1)** SDO1 is the serial output for transmitter 1.
SDO2	Output	Driven High	**Serial Data Output 2 (SDO2)** SDO2 is the serial output for transmitter 2.
SCKT	Input or Output	Tri-stated	**Serial Clock Transmit (SCKT)** This signal provides the clock for the SAI.
WST	Input or Output	Tri-stated	**Word Select Transmit (WST)** WST is an output if the transmit section is programmed as a master, and a Schmitt-trigger input if it is programmed as a slave.

☞ 1-11. GENERAL PURPOSE I/O (GPIO) SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
GPIO0-GPIO3	Standard Output, Open-drain Output, or Input	Disconnected	GPIO lines can be used for control and handshake functions between the DSP and external circuitry.

☞ 1-12. ON-CHIP EMULATION (OnCE™) PORT SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
DSI	Input	output, Driven Low	**Debug Serial Input (DSI)** The DSI signal is the signal through which serial data or commands are provided to the OnCE port controller.
OS0	Output		**Operating Status 0 (OS0)** When the DSP is not in the Debug mode, the OS0 signal provides information about the DSP status if it is an output and used in conjuction with the OS1 signal.
DSCK	Input	Output, Driven Low	**Debug Serial Clock (DSCK)** The DSCK/OS1 signal, when an input, is the signal through which the serial clock is supplied to OnCE port.
OS1	Output		**Operating Status 1(OS1)** If the OS1 signal is an output and used in conjunction with the OS0 signal, it provides information about the DSP status when the DSP is not in the Debug mode.
DSO	Output	Driven-High	**Debug Serial Output (DSO)** The DSO line provides the data contained in one of the OnCE port controller registers as specified by the last command received from the command controller.
DR	Input	Input	**Debug Request (DR)** The debug request input provides a means of entering the Debug mode of operation.

ALIGNMENT PROCEDURES

TUNER

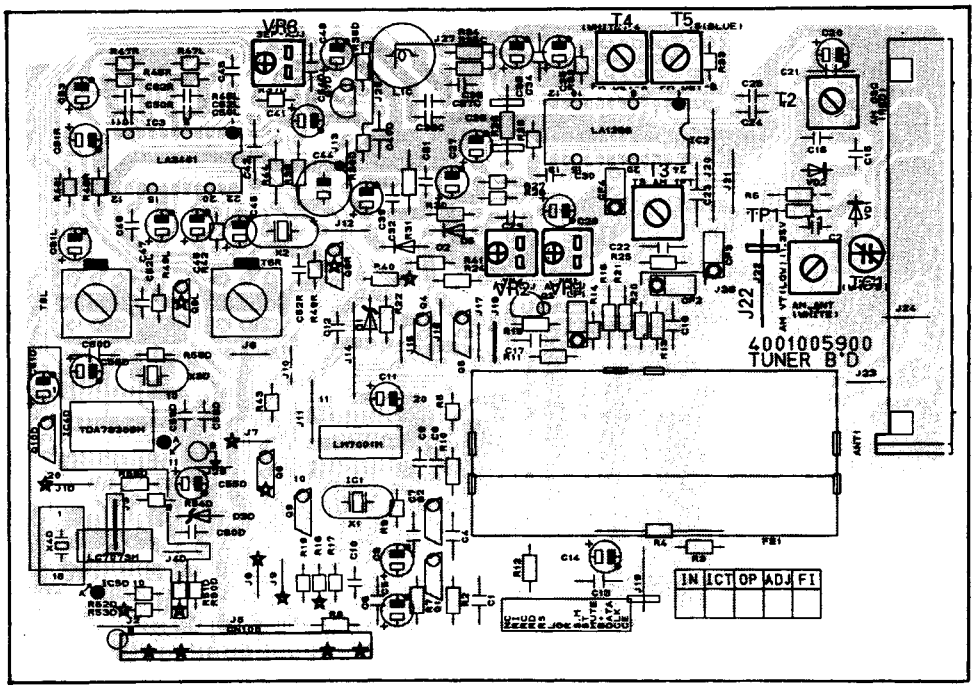
1. Equipment Required

- AM Standard Signal Generator (AM SSG)
- Oscilloscope
- AC Voltmeter
- FM Standard Signal Generator (FM SSG)
- Stereo Modulator
- Audio Generator
- Distortion Meter
- DC Voltmeter
- Frequency Counter

Note : Disconnect external FM antenna prior to alignment.

2. Alignment

2-1. Alignment and Test Point



2-2. AM Alignment

- Output of signal generator should not be greater than necessary to obtain an optimum output reading.
- Signal generator modulation : 30 %
- RF signal frequency : 400 Hz
- Switch : Press the BAND button to AM

Step	Subject	Signal Generator Frequency	Set Frequency Setting	Equipment Connection	Adjustment Point	Adjust for
1	Tuning Voltage	520kHz (522kHz)	520kHz 1) (522kHz)	DC Voltmeter to J22 (TP1)	T2 AM OSC(R)	DC 1.5V±0.2V
2	USABLE sensitivity	600kHz (594kHz)	600kHz 1) (594kHz)	AC voltmeter and oscilloscope to speaker terminal of L or R channel	T 1 MW ANT(W)	Maximize audio output
		1400kHz (1404kHz)	1400kHz 2) (1404kHz)		TC1	
		* Feed signal should be fed to loop antenna through the test loop antenna 60 cm distant from the appliance. * Repeat the step 1) and 2) until no further improvement occurs.				

3	IF	1000kHz (999kHz)	1000kHz (999kHz)	Ac voltmeter and oscilloscope to speaker terminal of L or R channel	T3 AM IFT	Maximize audio output
4	Tuned Level	1000kHz(999kHz) 800 μV/m	1000kHz (999kHz)		VR1	"Tuned" flag in the FL display light on

3-3. FM Alignment

- Output of signal generator should not be greater than necessary to obtain an optimum output reading.
- Signal generator deviation : USA/Canada/Korea : 75kHz, Europe : 40kHz
- RF signal frequency : 1 kHz
- Switch : Press the BAND button to FM and the FM MODE button to MONO

Step	Subject	Signal Generator Frequency	Set Frequency Setting	Equipment Connection	Adjustment Point	Adjust for
1	Tuning Band Width	98.1MHz (98MHz)	98.1MHz (98MHz)	DC Voltmeter to R26(PCB1)	T4	Zero reading on DC Voltmeter
2	THD	98.1MHz (98MHz)	98.1MHz (98MHz)	Distortion meter to TAPE OUT jack of L or R channel	T5	Minimize distortion
3	Tuned Level	98.1MHz(98MHz) SSG output level: 10 μV/m	98.1MHz (98MHz)		VR2	"Tuned" flag in the FL display light on

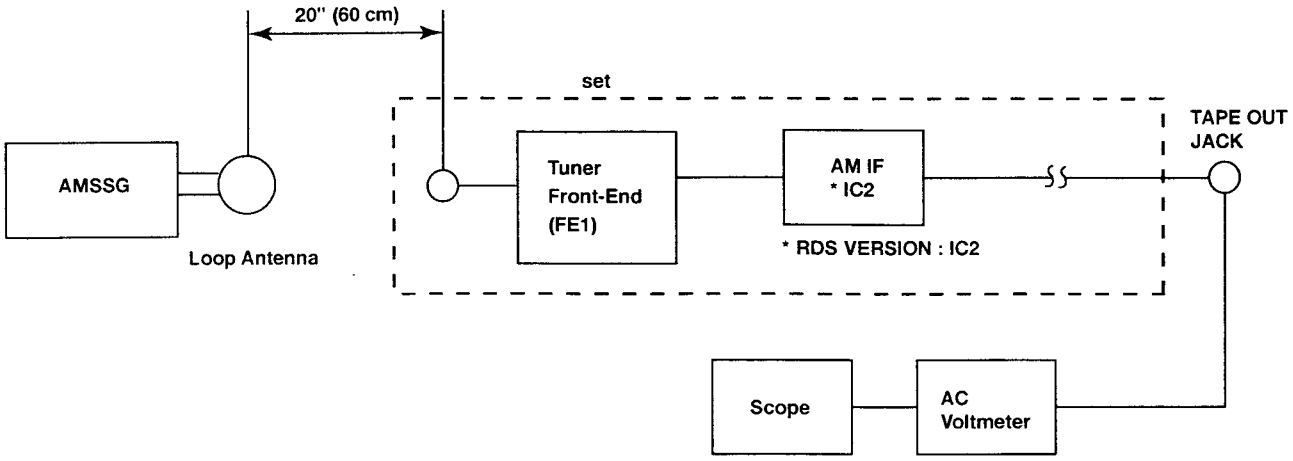
3-4. MPX Alignment

- Signal generator frequency : 98 MHz
- Signal generator deviation : USA : 75kHz, Europe : 40kHz
- RF signal frequency : 1 kHz
- Signal generator output level : 1000 μV/m
- Connect signal generator to FM antenna terminal through FM dummy antenna (75Ω)
- Switch : Press the BAND button to FM and the FM MODE button to STEREO

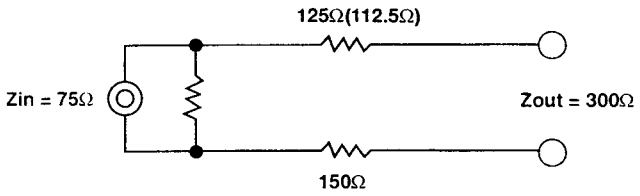
Step	Subject	19kHz Modulation Level	Set Generator Setting	Equipment Connection	Adjustment Point	Adjust for
1	Separation R → L	8% Modulation	Pilot on	AC voltmeter to speaker terminal of R channel	VR3	Set AC voltmeter to 0 dB
				AC voltmeter to speaker terminal of L channel		AC voltmeter reading should be at least 40 dB below
2	Separation L → R	8% Modulation	Pilot on	AC voltmeter to speaker terminal of L channel	VR3	Set AC voltmeter to 0 dB
				AC voltmeter to speaker terminal of R channel		AC voltmeter reading should be at least 40 dB below
If you could not obtain -40 dB readings in steps 1 and 2, readjust VR3 until you obtain -40 dB readings. Nominal is -45 dB. (Europe : Nominal -42 dB, Limit -37 dB)						

4. Equipment Connection

4-1. AM Alignment Connection

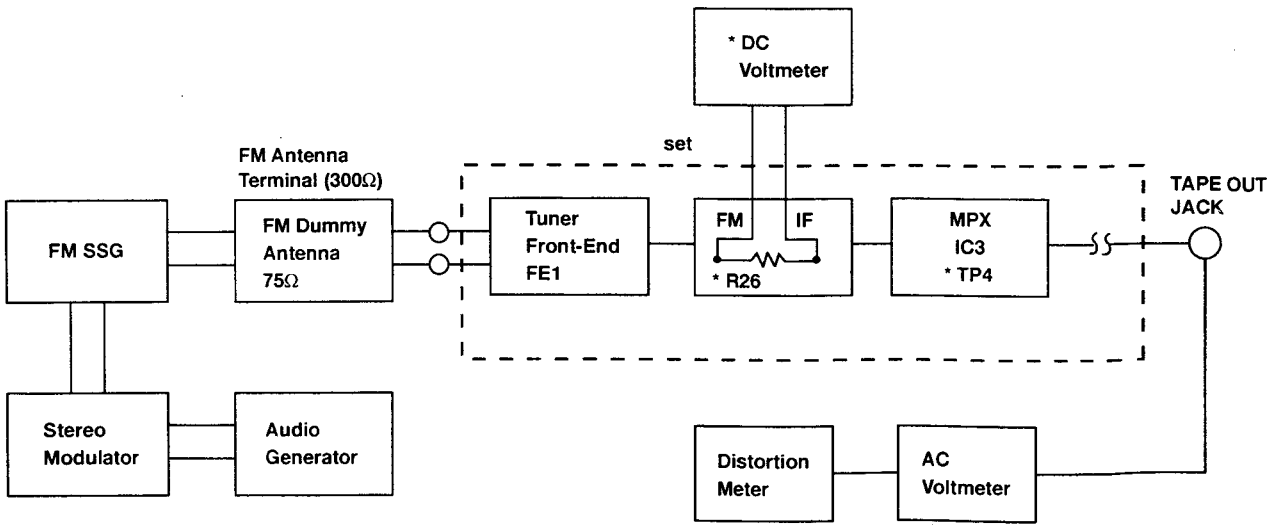


4-2. FM Dummy Antenna



FM Dummy Antenna to 300Ω Antenna terminal of system.

4-3. FM RF/IF and MPX Alignment Connection



TROUBLESHOOTING

Symptom	Cause and Remedy
Receiver inoperative. (FL indicator does not light.)	A) Faulty AC power cord. Replace. B) Defective the power switch. Replace. C) Broken wire in the power transformer. Replace. D) Blown fuse. Replace the fuse.
Fuse blows when power is turned on.	A) Defective power transformer. Replace. B) Short on the primary or secondary of the transformer circuitry. Repair the short. C) Damaged rectifier D102-D115, D112~D120 or damaged transistor Q213L/R/C/SL/SR, Q214L/R/C/SL/SR. D) Short circuit in the amplifier circuit. Repair the shorted component(s) in the amplifier circuit.
Power indicator lights but no sound from both channels.	A) Defective in transistor Q213L/R, Q214L/R the AMP501 Board. B) Pulled out of correct speaker switchch.
One channel does not work when volume is at maximum with a test signal applied to the center terminal of volume control of the dead channel.	A) Defective in transistor Q213L/R/C/SL/SR or Q214L/R/C/SL/SR on the AMP501 Board. Replace the defect. B) Break in copper foil of printed circuit board. Repair the defect. C) Short in speaker output terminal. Repair or replace.
Speaker works normally but headphones inoperative.	A) Headphone plug does not match with jack. Replace the jack. B) Defective resistor R732L/R. Replace.
FM inoperative.	A) Defective front-end(FE). Replace. B) Defective FM switch. Replace the switch. C) Defective transistor Q3 and IC's (IC2,IC3). Replace the defective transistor or IC(S). D) Defective coil T4, T5. Replace the coil(s). E) Defective lead-in. Repair or replace the lead-in. F) Ceramic filter CF1, CF3 defective. Replace the defective ceramic filter(s).
Poor multiplex separation.	A) Improper adjustment. Readjust VR3. B) IC3 defective. Replace. C) Variable resistor VR3 defective. Replace the variable resistor.
Manual tune inoperative. (Up/Down) (AM or FM)	A) Poor contact in Up/Down key. B) Defective IC301. Replace.

Symptom	Cause and Remedy
Stereo indicator does not light.	A) defective indicator in FIP. Replace. B) Improper adjustment of VR2 of Tuner Board. Make readjustment. C) Defective IC2. Replace the defective component.
AM inoperative.	A) Damaged IC2 of Tuner Board. Replace. B) Defective T1, T2, T3 or CF4 of Tuner Board. Replace the defective component(s). C) Defective varicap diodes VD1 or VD2. Replace varicap diodes(s). D) Damaged AM loop Antenna. Repair or replace.
Bass control has no effect.	A) Variable resistor Bass defective. Replace.
Treble control has no effect.	A) Variable resistor Treble defective.
FM Mode has no effect.	A) Defective FM Mode switch. Replace.
Auto tune inpoerative. (Up/Down)	A) Poor contact in Up/Down key. Repair or replace. B) Defective IC301. Replace. C) Defective Tuner Circuit components. Replace. D) In case of FM only, improper adjustment of FM front-end. Readjust.
FM volume is insuffcient.	A) If volume from both L and R channels is not loud enough : Front end section defective. faulty IC2, Coil T4 or T5. If sound of one channel is not loud enough : Defective VR3.
Memory setting inpoerative.	A) Poor contact in memory keys 1-10. Replace the defective component. B) Defective IC301. Replace the defective component.
FIP inoperative.	A) FIP defective. Replace. B) Defective IC301. Replace. C) Defective X-TAL 301. Replace.
Noisy volume control.	A) Defective volume. Replace.
Remote Control Unit inoperative.	A) Weak battery. Replace. B) Defective. Replace. C) Defective IC301 (Front Board). Replace.

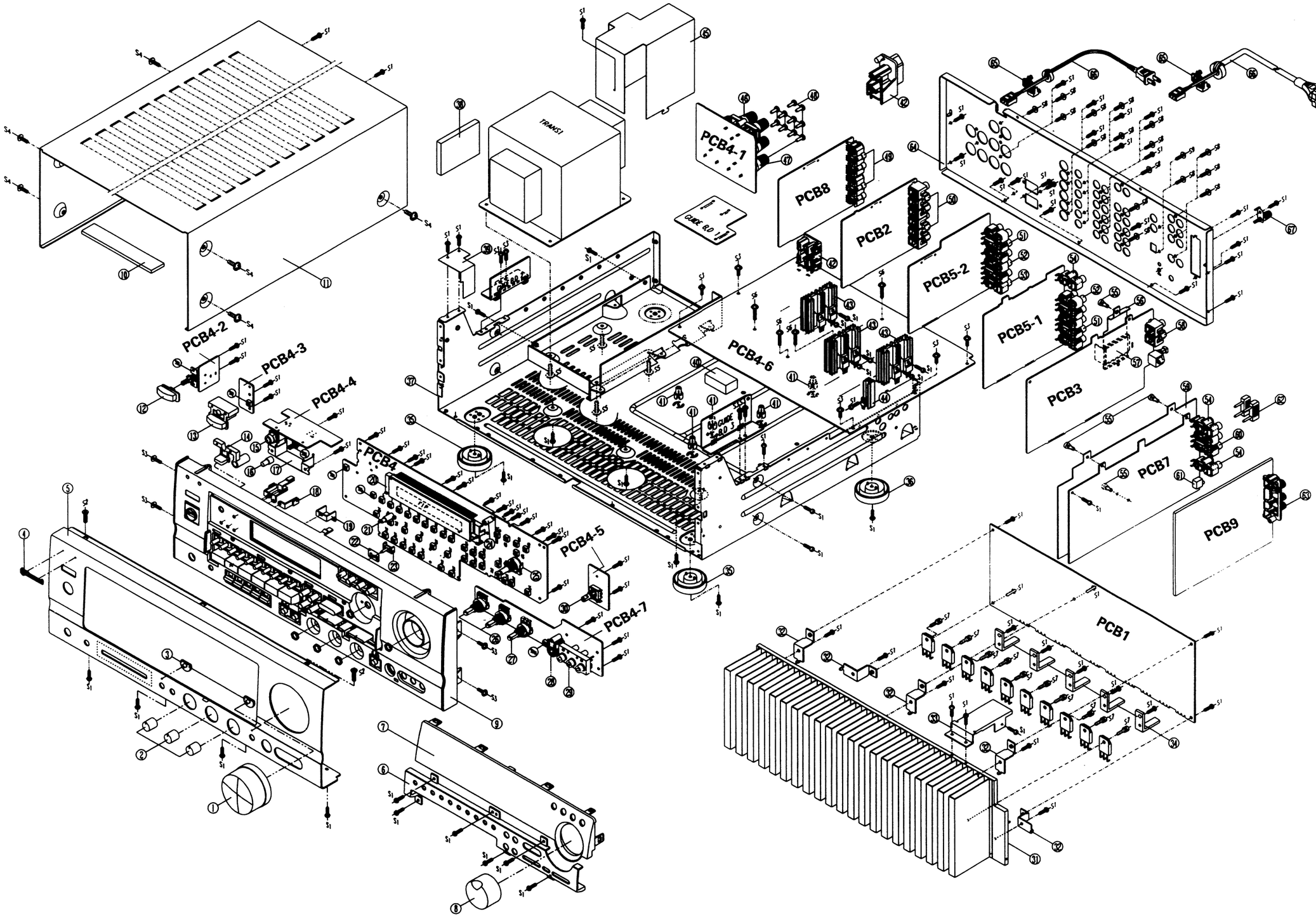
MECHANICAL PARTS LIST

*** Parts without version mentioned are common ones.**

NO.	PARTS NO.	DISCRIPTION	Q'TY	VERSION
	PACKAGE			
	6017040990191	CARTON BOX	1	
	6230042794010	CUSHION POLY	1	
	6320040052010	FILM SOFT PE	1	
	6330040092010	POLY BAG	1	
	5707046860011	INSTRUCTION MANUAL	1	RDS
	5707046860011	INSTRUCTION MANUAL	1	D
	5707046870010	INSTRUCTION MANUAL	1	K
	5707046880010	INSTRUCTION MANUAL	1	A
	ACCESSORIES			
	8300040640010	REMOCON	1	A/D/RDS
	8300040640020	REMOCON	1	K
	E601010000000	AM ANTENNA, LOOP	1	
	E605010010000	ANTENNA,WIRE	1	
	L109284007100	MATCHING TRANS	1	A/K
	L109284007200	MATCHING TRANS	1	D/RDS
	MISCELLANEOUS			
	8200281017210	POWER TRANS, 120V/60Hz	1	A
	8200281017360	POWER TRANS, 220V/60Hz	1	K
	8200281017460	POWER TRANS, 230V/50Hz	1	D/RDS
	CABINET & CHASSIS			
1	5087041538010	MAIN KNOB	1	
2	5097050641010	ROTARY KNOB	3	
3	4350041551010	GUIDE	2	
4	5637040591010	BADGE, SHERWOOD/NEW CASTLE	1	A/D/RDS
	5637040501010	BADGE, INKEL	1	K
5	3067046398010	FRONT PANEL	1	A
	3067046398020	FRONT PANEL	1	RDS
	3067046398030	FRONT PANEL	1	D
	3067046398040	FRONT PANEL	1	K
6	5127041071010	DECORATION	1	A
	5127041071020	DECORATION	1	D/RDS
	5127041071030	DECORATION	1	K
7	5077045182010	DISPLAY WINDOW	1	A
	5077045182020	DISPLAY WINDOW	1	D/RDS
	5077045182030	DISPLAY WINDOW	1	K
8	5087040778010	ENCODER KNOB	1	
9	3417041301010	FRONT BODY	1	A
	3417041301020	FRONT BODY	1	RDS
	3417041301030	FRONT BODY	1	D
	3417041301040	FRONT BODY	1	K
10	4050043525010	CUSHION, SPONGE	1	
11	3000045406040	CABINET, VCM1.1T/TOP	1	
12	509005399101A	BTN POWER	1	D/RDS
13	5090059071010	POWER BUTTON	1	A/K
14	5090059231010	STAND BY BUTTON	1	
15	G402040161330	JACK, D6.5 (HTJ064-11D)	1	
16	5090066821010	PUSH BUTTON	1	
17	4010057016010	PHONE BRACKET	1	
18	5160040643010	STAND-BY INDICATOR	4	
19	5160041151010	ABS/DTS INDICATOR	1	
20	4320040841010	HOLDER FL	2	
21	4320020581010	ABS/LED(DTS) HOLDER	1	
22	3070046732010	LIGHT SHIELD	1	
23	5160041141010	GUIDER INDICATOR	1	
24	4350042041010	LED GUIDE	1	
25	C450042030010	ROTARY VR (EC16B24D0002-ZZZ)	1	
26	C455121402300	ROTARY VR 16MM (100K)	2	
27	C455111402000	ROTARY VR 16MM (100K)	1	
28	G402041810000	S-VHS JACK, D6.5	1	
29	G606040300000	TER,RCA 3PIN	1	
30	C49004106001A	MOTOR VR	1	
31	2120044988010	POWER HEAT SINK	1	
32	4010056906010	HEAT SINK BRACKET	5	
33	4010056896010	PCB BRACKET	1	
34	4010057166010	BRACKET	5	
35	4007041021010	FOOT AL	2	A/K
	4007040201010	FOOT PL (H S)	2	D/RDS
36	4000040201010	FOOT PL	2	
37	3208056416200	CH-MAIN+BKT-PCB CHASSIS	1	
38	4050042695010	CUSHION, SPONGE RUBBER	1	
39	1240044100010	INSULATION, TR	1	
40	4050044345010	CUSHION, SPONGE	1	
41	4300040561010	SPACER KNOB	5	
42	G435040070000	AC OUTLET CCT1304-0212	1	A
	G435000160010	AC OUTLET A102D0020P	1	K
	G435040110000	AC OUTLET YKE31-0090	1	D/RDS
43	2120043538030	HEAT SINK, REG TR	3	
44	2120044348010	HEAT SINK, REG TR (15X45)	1	
46	G611040350000	SPEAKER TERMNAL 2P	1	
47	G614040340000	SPEAKER TERMINAL 8P	1	
48	2410040353010	BUSHING TERMINAL	10	D/RDS
49	G402042190000	JACK, D6.5	2	
50	G606300125010	TER,RCA 3PIN	2	
51	G603600920030	TER,RCA 6PIN	2	
52	G60240045003A	TER,RCA 4PIN	2	
53	G601200930030	TER,RCA 2PIN	1	
54	G601200440020	TER,RCA 2PIN	1	
55	1560040036010	SNAP RIVET	4	
56	2120045058010	HEAT SINK	1	
57	1220041033010	TAPE 3M	1	
58	G601200099020	TER,RCA 2PIN	1	
59	3070046716010	PLATE SHIELD	1	
60	G602400450050	TER,RCA 4PIN	1	
61	G402042070000	JACK,D6.5	1	A
62	L063040750000	JUMPER PLUG	2	
63	G590040470000	ANT TERMINAL	1	A/D
	G59004046000A	ANT TERMINAL	1	D/RDS
64	3207053476010	BACK CHASSIS	1	K
	3207053476020	BACK CHASSIS	1	A
	3207053476030	BACK CHASSIS	1	RDS
	3207053476040	BACK CHASSIS	1	D
65	4380040162010	STOPPER CORD	1	
66	L061040210010	AC CORD	1	K
	L061040050010	AC CORD	1	A
	L061040090010	AC CORD	1	D/RDS
67	3790000090000	SCREW GND	1	
	SWITCHS			
SW1	G000041610000	PUSH SW (ESB-8279V)	1	D/RDS
SW2	G180000270010	TACT SW	1	
SW3	G000040960000	PUSH SW (SPLL 19X1071)	1	
SW4~SW31	G180000270010	TACT SW	28	
SW32~SW36	G180000270010	TACT SW	5	RDS
SW37~SW44	G180000270010	TACT SW	8	
	SCREWS			
S1	B020030083B10	SCREW, +2S 3*8 B-TYPE BK/BH	98	
S2	B010530083F10	SCREW, +#2FTC 3X8B	2	
S3	B020030061W1	SCREW, #B WPTT3X6Y	18	
S4	B020940083B10	SCREW, +3S 4*8 BK/BH	6	
S5	B020940083W1	SCREW, +WSAM 4X8B	4	
S6	B020030181X10	SCREW, #BWPTT 3X18Y	4	
S7	1507041146010	SCREW, +2S 3*16 P+S-WASHER ZNY/	10	
S8	1507040996010	SCREW, +G.N.D.	16	
S9	1507040996020	SCREW, CU-COATING/GND	1	

EXPLODED VIEW

Model No. : R-945R/R-945RDS



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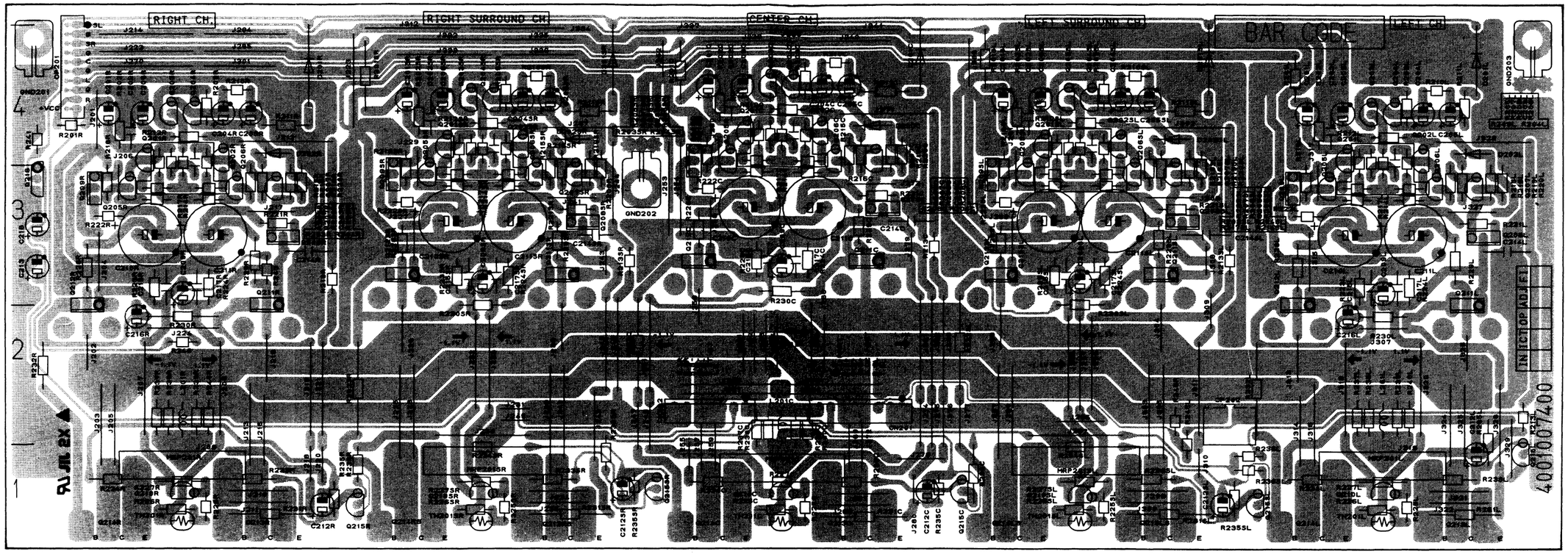
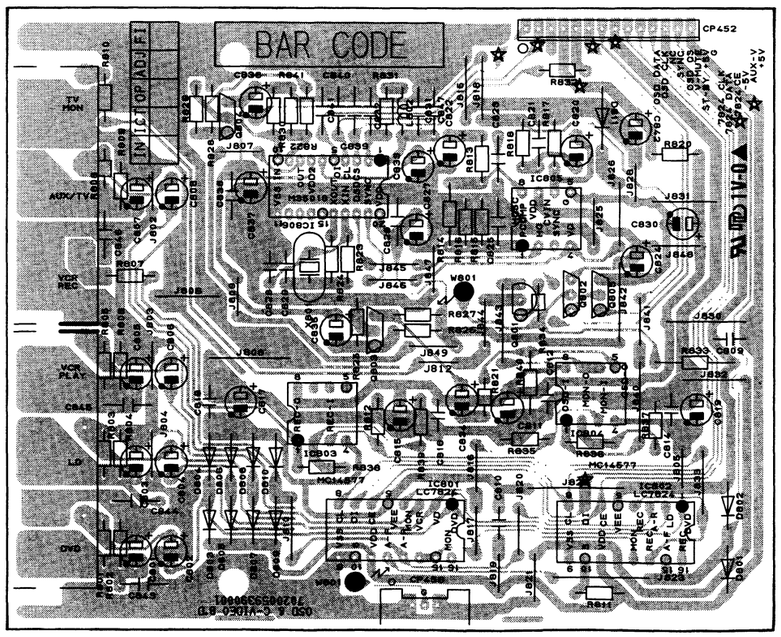
PRINTED CIRCUIT BOARDS

Model No. : R-945R/R-945RDS

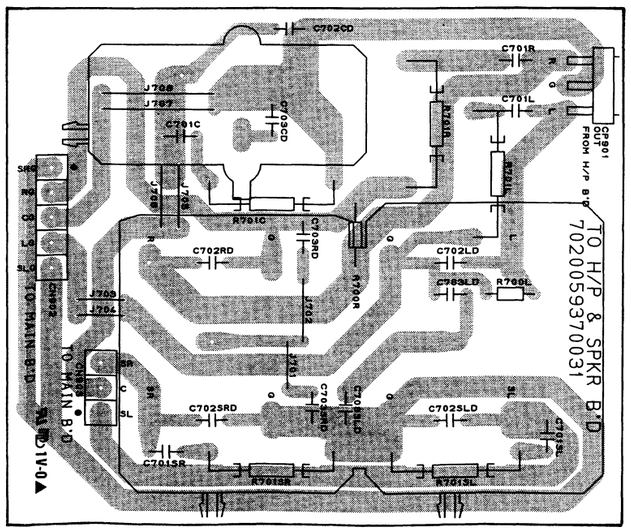
PCB1 (AMP)



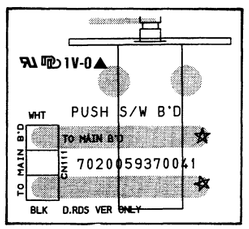
PCB2 (C-VIDEO)



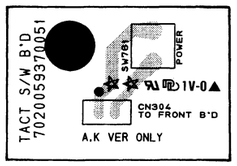
PCB4-1 (SPKR)



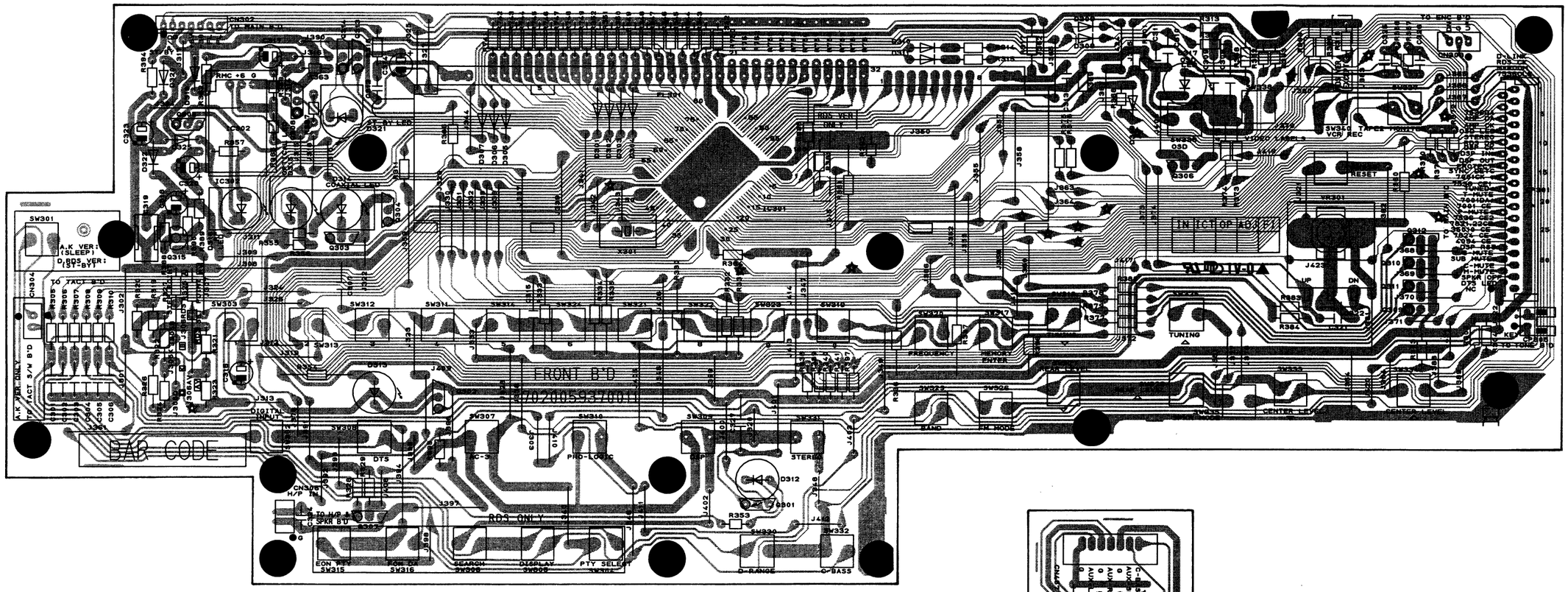
PCB4-2 (PUSH SW)



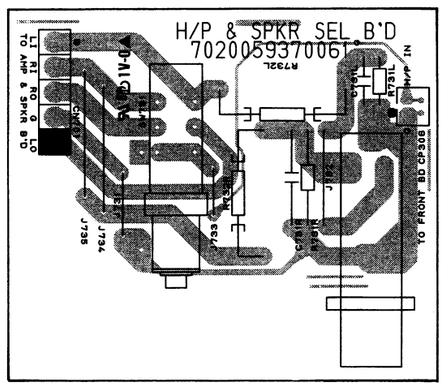
PCB4-3 (TACT SW)



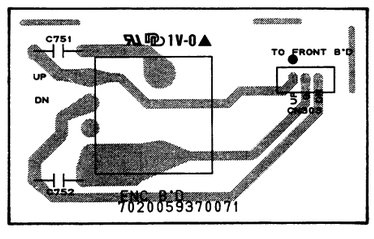
PCB4 (FRONT)



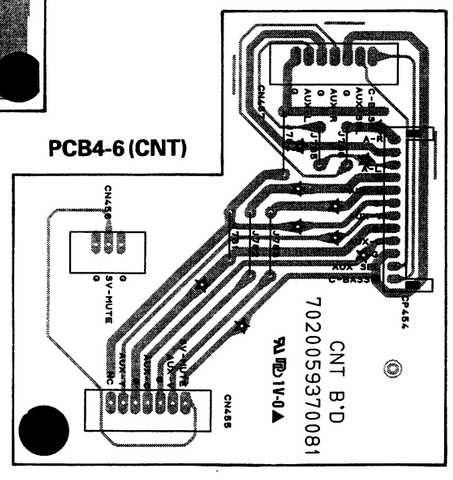
PCB4-4 (HP&SPKR SEL)



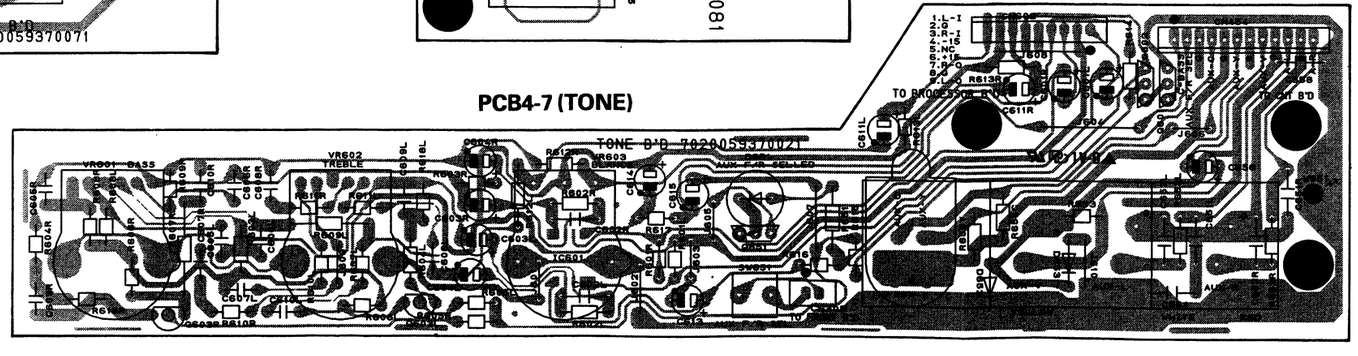
PCB4-5 (ENC)



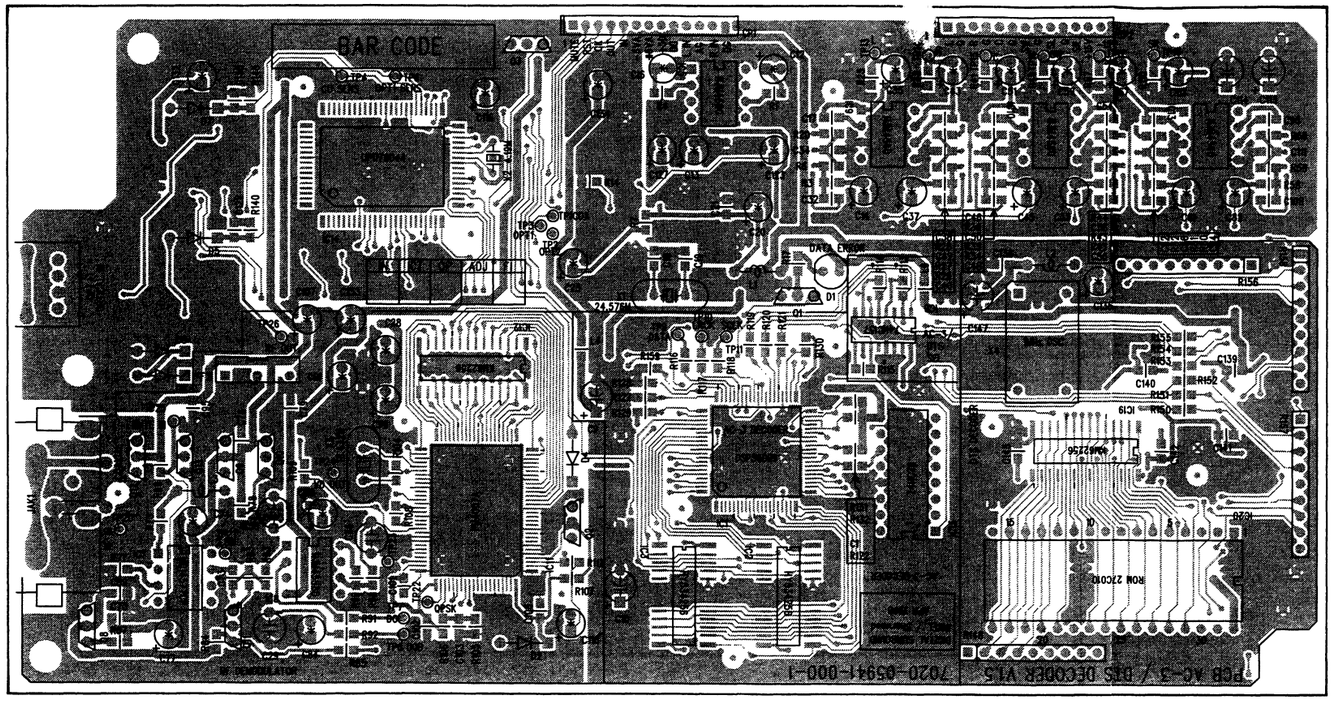
PCB4-6 (CNT)



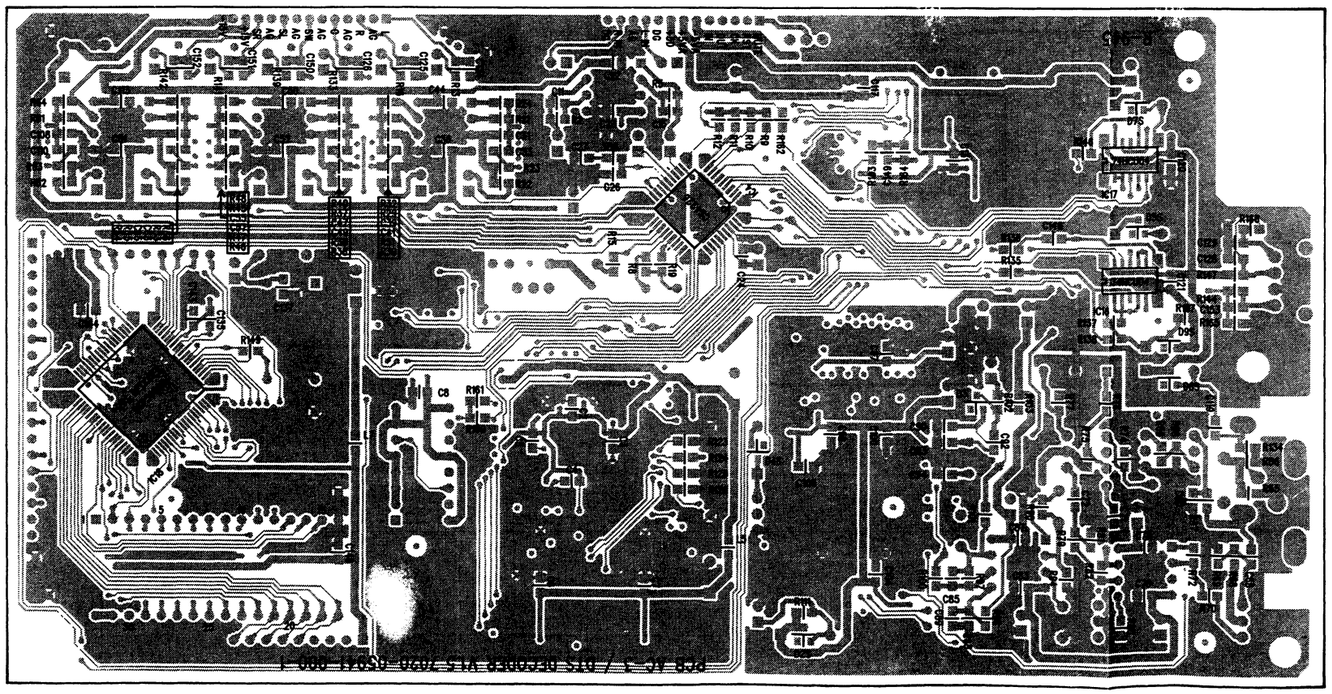
PCB4-7 (TONE)



PCB3 (DTS/AC3) -TOP-



PCB3 (DTS/AC3) -BOTTOM-



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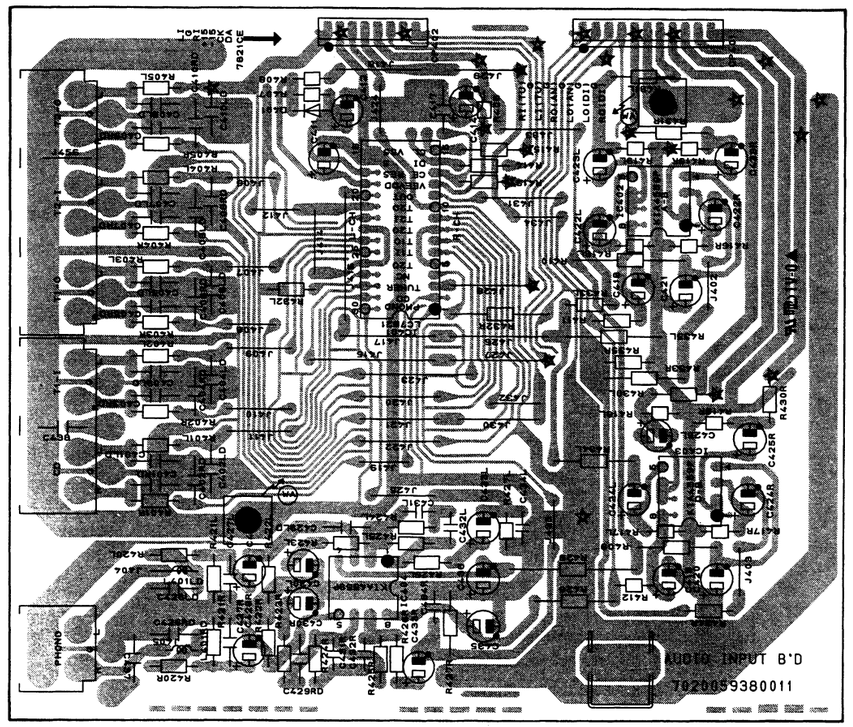
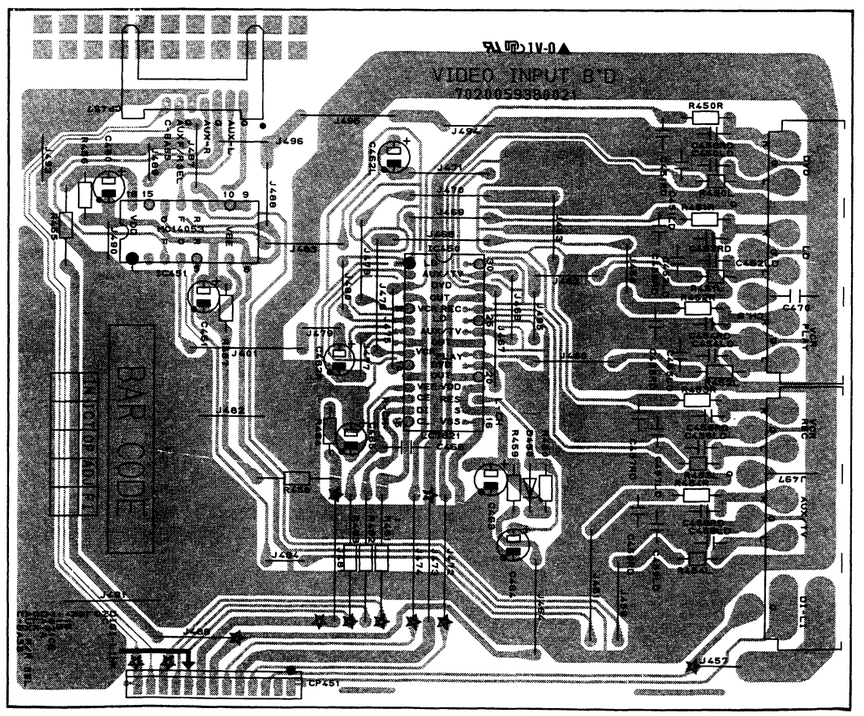
PCB5-1 (AUDIO INPUT)



PCB5-2 (VIDEO INPUT)



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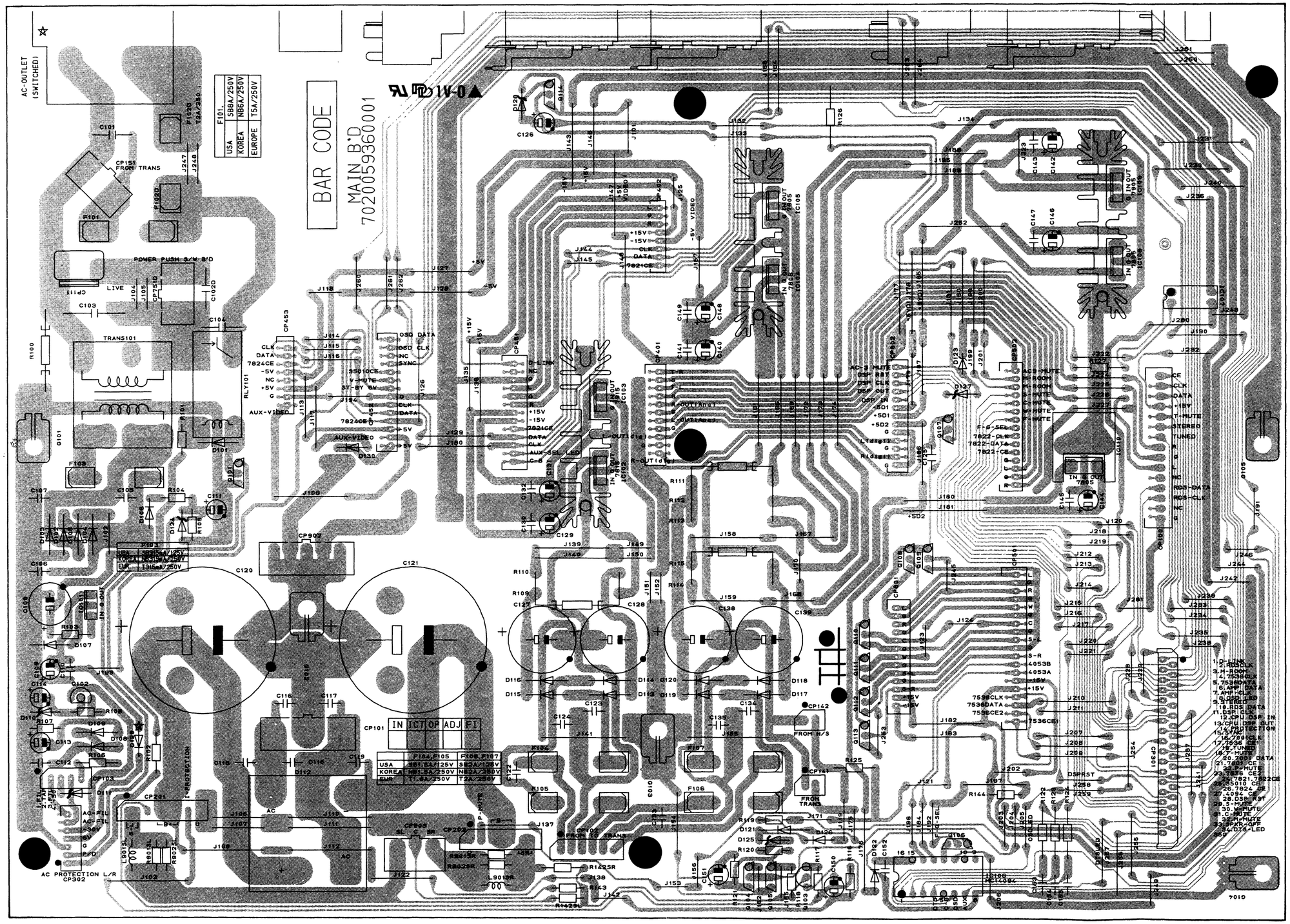
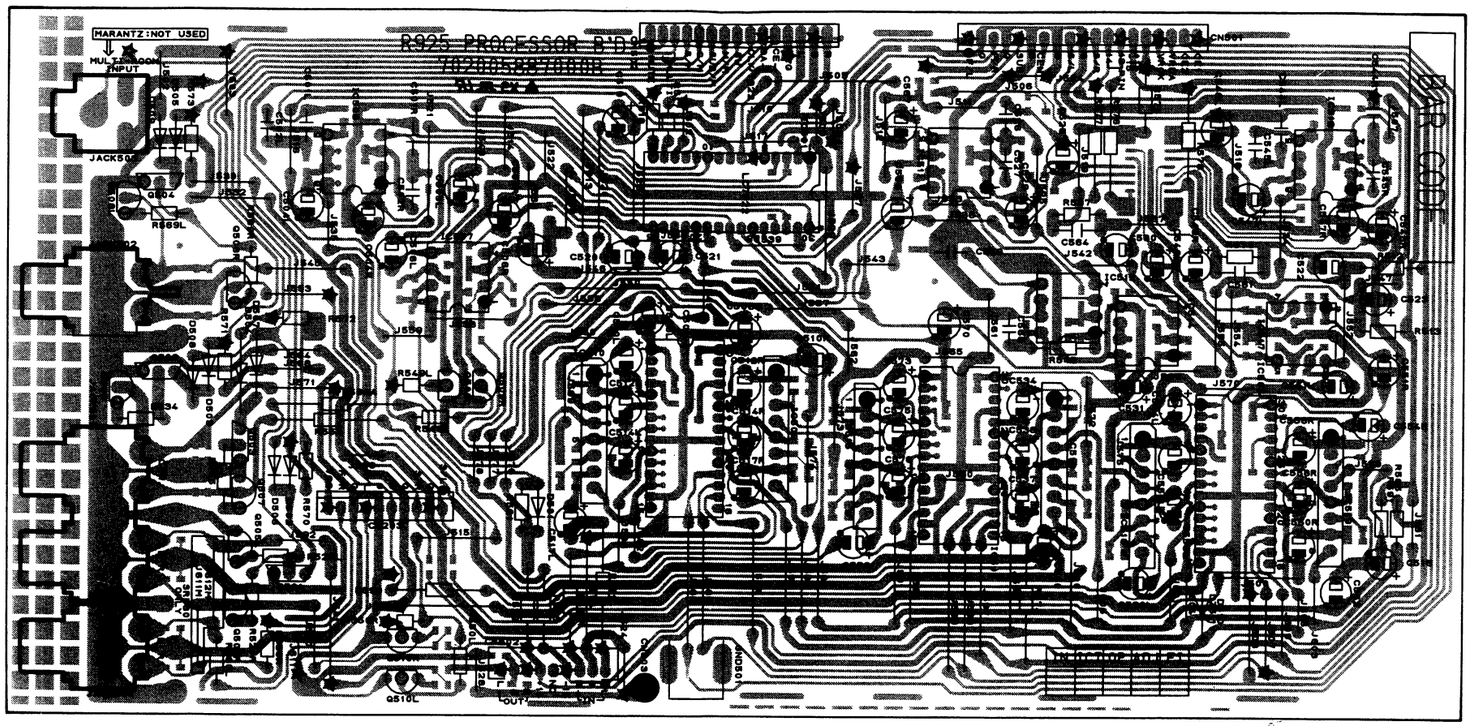
PCB6 (MAIN)


AC-OUTLET (SWITCHED)
BAR CODE
MAIN B'D
702005936O001
V-0
F101
USA 5R8A/250V
KOREA NR5A/250V
EUROPE T5A/250V
POWER PUSH S/W B'D
TRANS101
AC PROTECTION L/R CP302
IN PUT
OUT PUT
ADJ
FI
FROM TRANS
FROM N/S
D-LINK
AUX-VIDEO
OSD DATA
OSD CLK
H-SYNC
V-SYNC
V-MUTE
ST-BY SW
7824CE
7821CE
DATA
CLK
AUX-SEL
LED
+15V
-15V
-5V
+5V
+5D1
+5D2
DSP RST
DSP CLK
DSP OUT
DSP IN
F-MUTE
F-B-SEL
7822-CLK
7822-DATA
7822-CE
RDS-DATA
RDS-CLK
TUNED
STEREO
T-MUTE
7536CLK
7536DATA
7536CE2
7536CE1
4053B
4053A
5-R
DSPRST
SPKR-OFF
LED
P-MUTE
AC-MUTE
AC-FIL
PROTECTION
F104,F105 F106,F107
USA 3R1.6A/125V 5R2A/125V
KOREA NR1.6A/250V NR2A/250V
EUR T1.6A/250V T2A/250V

PCB7 (PROCESSOR)



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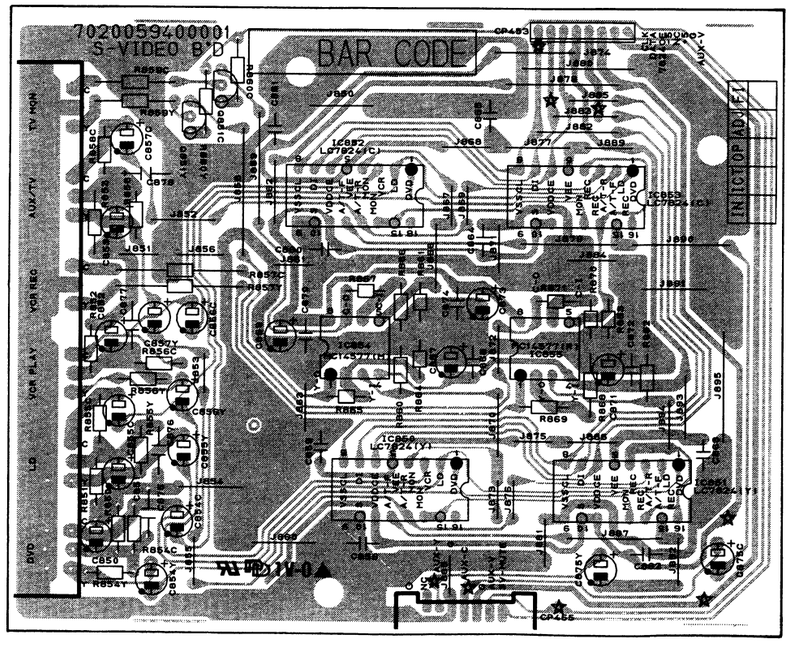
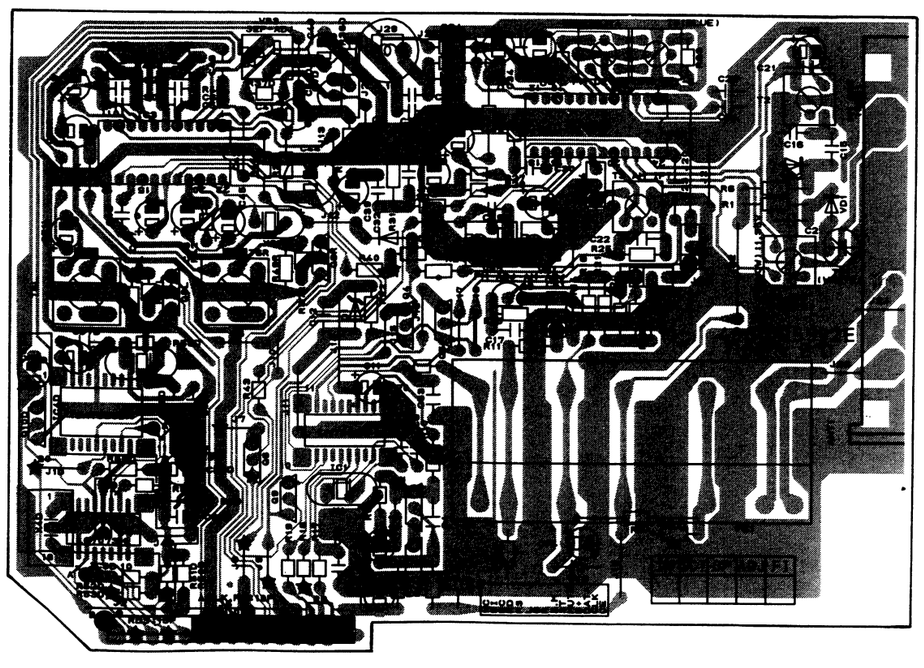
PCB8 (S-VIDEO)



PCB9 (TUNER)



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ELECTRICAL PARTS LIST

*** Parts without version mentioned are common ones.**

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
PCB1	ASSEMBLY P.C.BOARD AMP				7028040954000		
	CAPACITORS						
C201C/L/R	ELECT GE 85C	4.7 uF	50V	M	D0404R7087100	3	
C201SL/SR	ELECT GE 85C	4.7 uF	50V	M	D0404R7087100	2	
C202C/L/R	CERAMIC T.C AXIAL	100 pF	50V	J	D001101077530	3	
C202SL/SR	CERAMIC T C AXIAL	100 pF	50V	J	D001101077530	2	
C203C/L/R	CERAMIC HIK AXIAL	680 pF	50V	K	D005681077530	3	
C203SL/SR	CERAMIC HIK AXIAL	680 pF	50V	K	D005681077530	2	
C204C/L/R	ELECT GE 85C	33 uF	25V	M	D040330084100	3	
C204SL/SR	ELECT GE 85C	33 uF	25V	M	D040330084100	2	
C205C/L/R	ELECT GE 85C	470 uF	10W	V	D040471082100	3	
C205SL/SR	ELECT GE 85C	470 uF	10W	V	D040471082100	2	
C206C/L/R	ELECT GE 85C	470 uF	10W	V	D040471082100	3	
C206SL/SR	ELECT GE 85C	470 uF	10W	V	D040471082100	2	
C209C/L/R	ELECT GE 85C	10 uF	50V	M	D040100087100	3	
C209SL/SR	ELECT GE 85C	10 uF	50V	M	D040100087100	2	
C210C/L/R	ELECT GE 85C	470 uF	63V	M	D040471088020	3	
C210SL/SR	ELECT GE 85C	470 uF	63V	M	D040471088020	2	
C211C/L/R	ELECT GE 85C	470 uF	63V	M	D040471088020	3	
C211SL/SR	ELECT GE 85C	470 uF	63V	M	D040471088020	2	
C212C/L/R	ELECT GE 85C	10 uF	50V	M	D040100087100	3	
C212SL/SR	ELECT GE 85C	10 uF	50V	M	D040100087100	2	
C213	ELECT GE 85C	1 uF	50V	M	D040010087100	1	
C214C/L/R	CERAMIC T C AXIAL	15 pF	50V	J	D001150067530	3	
C214SL/SR	CERAMIC T C AXIAL	15 pF	50V	J	D001150067530	2	
C215C	CERAMIC T C AXIAL	68 pF	50V	J	D001680067530	1	
C215SL/SR	CERAMIC T C AXIAL	68 pF	50V	J	D001680067530	2	
C216L/R	ELECT GE 85C	10 uF	50V	M	D040100087100	2	
C218	ELECT GE 85C	47 uF	50V	M	D040470087100	1	
	CONNECTOR						
CN201	CTM 0810 5264,5395 1007#20 2 5				L021081034810	1	
CN202	CTM 0708 5264,5395 1007#20 2 5				L021070831810	1	
CP202	CN WAFER 3 96MM				L104353130200	1	
CP203	CN WAFER 2 0MM				L101220100000	1	
	DIODES						
D201C/L/R	1N4148, SWITCHING				K000414801520	3	
D201SL/SR	1N4148, SWITCHING				K000414801520	2	
D202C/L/R	1N4148, SWITCHING				K000414801520	3	
D202SL/SR	1N4148, SWITCHING				K000414801520	2	
	COILS						
L201C/L/R	INDUCTOR COIL 0.5UH				D330900001320	3	
	TRANSISTORS						
Q201C/L/R	KTA1268, PNP				J5001268B0050	3	
Q201SL/SR	KTA1268, PNP				J5001268B0050	2	
Q202C/L/R	KTA1268, PNP				J5001268B0050	3	
Q202SL/SR	KTA1268, PNP				J5001268B0050	2	
Q203C/L/R	KTA1268, PNP				J5001268B0050	3	
Q203SL/SR	KTA1268, PNP				J5001268B0050	2	
Q204C/L/R	KTA1266, PNP				J5001266Y0050	3	
Q204SL/SR	KTA1266, PNP				J5001266Y0050	2	
Q205C/L/R	KTC2240BL (BKTC3200), NPN				J5023200B0050	3	
Q205SL/SR	KTC2240BL (BKTC3200), NPN				J5023200B0050	2	
Q206C/L/R	KTC2240BL (BKTC3200), NPN				J5023200B0050	3	
Q206SL/SR	KTC2240BL (BKTC3200), NPN				J5023200B0050	2	
Q207C/L/R	KTA1268, PNP				J5001268B0050	3	
Q207SL/SR	KTA1268, PNP				J5001268B0050	2	
Q208C/L/R	2SA1360, PNP				J5001360O000D	3	
Q208SL/SR	2SA1360, PNP				J5001360O000D	2	
Q209C/L/R	2SC3423, NPN				J5023423O0000	3	
Q209SL/SR	2SC3423, NPN				J5023423O0000	2	
Q210C/L/R	2SC1740, NPN				J5021740Y0050	3	
Q210SL/SR	2SC1740, NPN				J5021740Y0050	2	
Q211C/L/R	2SC4883, NPN				J5024883Y0000	3	
Q211SL/SR	2SC4883, NPN				J5024883Y0000	2	
Q212C/L/R	2SA1859, PNP				J5001859Y0000	3	
Q212SL/SR	2SA1859, PNP				J5001859Y0000	2	
Q213C/L/R	2SC5200, NPN				J502520000010	3	
Q213SL/SR	2SC5200, NPN				J502520000010	2	
Q214C/L/R	2SA1943, PNP				J500194300010	3	
Q214SL/SR	2SA1943, PNP				J500194300010	2	
Q215C/L/R	KTC2240BL (BKTC3200), NPN				J5023200B0050	3	
Q215SL/SR	KTC2240BL (BKTC3200), NPN				J5023200B0050	2	
Q216	DTC114YS, NPN				J6020114Y0050	1	
	RESISTORS						
R201C/L/R	METAL FILM	1 Kohm	1/5W	J	C06001026P520	3	
R201SL/SR	METAL FILM	1 Kohm	1/5W	J	C06001026P520	2	
R202C/L/R	CARBON FILM	33 Kohm	1/5W	J	C00003336P520	3	
R202SL/SR	CARBON FILM	33 Kohm	1/5W	J	C00003336P520	2	
R203C/L/R	METAL FILM	15 ohm	1/5W	J	C06001506P520	3	
R203SL/SR	METAL FILM	15 ohm	1/5W	J	C06001506P520	2	
R204C/L/R	METAL FILM	15 ohm	1/5W	J	C06001506P520	3	

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
R204SL/SR	METAL FILM	15 ohm	1/5W	J	C06001506P520	2	
R205C/L/R	METAL FILM	750 ohm	1/5W	J	C06007516P520	3	
R205SL/SR	METAL FILM	750 ohm	1/5W	J	C06007516P520	2	
R206C/L/R	METAL FILM	750 ohm	1/5W	J	C06007516P520	3	
R206SL/SR	METAL FILM	750 ohm	1/5W	J	C06007516P520	2	
R207C/L/R	METAL FILM	680 ohm	1/5W	J	C06006816P520	3	
R207SL/SR	METAL FILM	680 ohm	1/5W	J	C06006816P520	2	
R208C/L/R	METAL FILM	68 ohm	1/5W	J	C06006806P520	3	
R208SL/SR	METAL FILM	68 ohm	1/5W	J	C06006806P520	2	
R209C/L/R	METAL FILM	150 ohm	1/5W	J	C06001516P520	3	
R209SL/SR	METAL FILM	150 ohm	1/5W	J	C06001516P520	2	
R210C/L/R	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	3	
R210SL/SR	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	2	
R211C/L/R	CARBON FILM	43 Kohm	1/5W	J	C00004336P520	3	
R211SL/SR	CARBON FILM	43 Kohm	1/5W	J	C00004336P520	2	
R212C/L/R	CARBON FILM	1 3 Kohm	1/5W	J	C00001326P520	3	
R212SL/SR	CARBON FILM	1.3 Kohm	1/5W	J	C00001326P520	2	
R213C/L/R	CARBON FILM	33 Kohm	1/5W	J	C00003336P520	3	
R213SL/SR	CARBON FILM	33 Kohm	1/5W	J	C00003336P520	2	
R214C/L/R	METAL FILM	560 ohm	1/5W	J	C06005616P520	3	
R214SL/SR	METAL FILM	560 ohm	1/5W	J	C06005616P520	2	
R215C/L/R	METAL FILM	560 ohm	1/5W	J	C06005616P520	3	
R215SL/SR	METAL FILM	560 ohm	1/5W	J	C06005616P520	2	
R216C/L/R	METAL FILM	560 ohm	1/5W	J	C06005616P520	3	
R216SL/SR	METAL FILM	560 ohm	1/5W	J	C06005616P520	2	
R217C/L/R	METAL FILM	560 ohm	1/5W	J	C06005616P520	3	
R217SL/SR	METAL FILM	560 ohm	1/5W	J	C06005616P520	2	
R218C/L/R	METAL FILM	560 ohm	1/5W	J	C06005616P520	3	
R218SL/SR	METAL FILM	560 ohm	1/5W	J	C06005616P520	2	
R219C/L/R	METAL FILM	560 ohm	1/5W	J	C06005616P520	3	
R219SL/SR	METAL FILM	560 ohm	1/5W	J	C06005616P520	2	
R220C/L/R	METAL FILM	560 ohm	1/5W	J	C06005616P520	3	
R220SL/SR	METAL FILM	560 ohm	1/5W	J	C06005616P520	2	
R221C/L/R	METAL FILM	82 ohm	1/5W	J	C06008206P520	3	
R221SL/SR	METAL FILM	82 ohm	1/5W	J	C06008206P520	2	
R222C/L/R	METAL FILM	82 ohm	1/5W	J	C06008206P520	3	
R222SL/SR	METAL FILM	82 ohm	1/5W	J	C06008206P520	2	
R223C/L/R	CARBON FILM	22 Kohm	1/5W	J	C00002236P520	3	
R223SL/SR	CARBON FILM	22 Kohm	1/5W	J	C00002236P520	2	
R224C/L/R	CARBON FILM	22 Kohm	1/5W	J	C00002236P520	3	
R224SL/SR	CARBON FILM	22 Kohm	1/5W	J	C00002236P520	2	
R225C/L/R	METAL FILM	2.2 Kohm	1/5W	J	C06002226P520	3	
R225SL/SR	METAL FILM	2.2 Kohm	1/5W	J	C06002226P520	2	
R226C/L/R	METAL FILM	680 ohm	1/5W	J	C06006816P520	3	
R226SL/SR	METAL FILM	680 ohm	1/5W	J	C06006816P520	2	
R227C/L/R	METAL FILM	1 2 Kohm	1/5W	J	C06001226P520	3	
R227SL/SR	METAL FILM	1 2 Kohm	1/5W	J	C06001226P520	2	
R228C/L/R	METAL FILM	270 ohm	1/5W	J	C06002716P520	3	
R228SL/SR	METAL FILM	270 ohm	1/5W	J	C06002716P520	2	
R229C/L/R	METAL FILM	270 ohm	1/5W	J	C06002716P520	3	
R229SL/SR	METAL FILM	270 ohm	1/5W	J	C06002716P520	2	
R230C/L/R	METAL FILM	82 ohm	1/5W	J	C06008206P520	3	
R230SL/SR	METAL FILM	82 ohm	1/5W	J	C06008206P520	2	
R231C/L/R	METAL FILM	3.3 ohm	1/5W	J	C0603R306P520	3	
R231SL/SR	METAL FILM	3.3 ohm	1/5W	J	C0603R306P520	2	
R232C/L/R	METAL FILM	3.3 ohm	1/5W	J	C0603R306P520	3	
R232SL/SR	METAL FILM	3 3 ohm	1/5W	J	C0603R306P520	2	
R233C/L/R	METAL FILM	1 8 Kohm	1/5W	J	C06001826P520	3	
R233SL/SR	METAL FILM	1 8 Kohm	1/5W	J	C06001826P520	2	
R234C/L/R	CARBON FILM	2 Kohm	1/5W	J	C00002026P520	3	
R234SL/SR	CARBON FILM	2 Kohm	1/5W	J	C00002026P520	2	
R235C/L/R	METAL FILM	910 ohm	1/5W	J	C06009116P520	3	
R235SL/SR	METAL FILM	910 ohm	1/5W	J	C06009116P520	2	
R236C/L/R	CARBON FILM	6 8 Kohm	1/5W	J	C00006826P520	3	
R236SL/SR	CARBON FILM	6 8 Kohm	1/5W	J	C00006826P520	2	
R237C/L/R	METAL FILM	39 ohm	1/5W	J	C06003906P520	3	
R238C/L/R	METAL FILM	39 ohm	1/5W	J	C06003906P520	3	
R239C/L/R	METAL FILM	39 ohm	1/5W	J	C06003906P520	3	
R240C/L/R	METAL FILM	39 ohm	1/5W	J	C06003906P520	3	
R241	CARBON FILM	150 Kohm	1/5W	J	C00001546P520	1	
R243	METAL FILM	4 7 Kohm	1/5W	J	C06004726P520	1	
R245L/R	CARBON FILM	22 Kohm	1/5W	J	C00002236P520	2	
R246	METAL FILM	4.7 Kohm	1/5W	J	C06004726P520	1	
	CEMENT MPRS						
MPR201C/L/R	CEMENT MPR	0.39 ohm	5W	J	C144R39069300	3	
MPR201SL/SR	CEMENT MPR	0.39 ohm	5W	J	C144R39069300	2	
	THERMISTORS						
TH201C/L/R	THERMISTOR NTC5D-302KPC, 3K				F340530200000	3	
TH201SL/SR	THERMISTOR NTC5D-302KPC, 3K				F340530200000	1	
PCB2	ASSEMBLY P.C.BOARD C-VIDEO				7028040954600		A/K
PCB2	ASSEMBLY P.C.BOARD C-VIDEO				7028040954620		D
PCB2	ASSEMBLY P.C.BOARD C-VIDEO				7028040954610		RDS
	CAPACITORS						

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
C801	ELECT GE 85C	10 uF	35V	M	D040100085100	1	
C802	ELECT GE 85C	22 uF	16V	M	D040220083100	1	
C803	ELECT GE 85C	10 uF	35V	M	D040100085100	1	
C804	ELECT GE 85C	22 uF	16V	M	D040220083100	1	
C805	ELECT GE 85C	10 uF	35V	M	D040100085100	1	
C806	ELECT GE 85C	22 uF	16V	M	D040220083100	1	
C807	ELECT GE 85C	10 uF	35V	M	D040100085100	1	
C808	ELECT GE 85C	22 uF	16V	M	D040220083100	1	
C809	FILM POLYESTER	0.1 uF	63V	K	D020104078060	1	
C810	FILM POLYESTER	0.1 uF	63V	K	D020104078060	1	
C811	ELECT GE 85C	220 uF	10V	M	D040221082100	1	
C812	CERAMIC HIK DISC	0.01 uF	50V	Z	D004103097060	1	
C814	CERAMIC HIK DISC	0.01 uF	50V	Z	D004103097060	1	
C815	ELECT GE 85C	220 uF	10V	M	D040221082100	1	
C816	CERAMIC HIK DISC	0.01 uF	50V	Z	D004103097060	1	
C817	ELECT GE 85C	220 uF	10V	M	D040221082100	1	
C818	CERAMIC HIK DISC	0.01 uF	50V	Z	D004103097060	1	
C819	ELECT GE 85C	220 uF	10V	M	D040221082100	1	
C820	ELECT GE 85C	1 uF	50V	M	D040010087100	1	
C821	CERAMIC HIK AXIAL	0.001 uF	50V	K	D005102077530	1	
C822	ELECT GE 85C	1 uF	50V	M	D040010087100	1	
C823	CERAMIC HIK AXIAL	2200 pF	16V	X	D005222773530	1	
C824	ELECT GE 85C	100 uF	10V	M	D040101082100	1	
C825	CERAMIC T.C AXIAL	100 pF	50V	J	D001101077530	1	
C826	CERAMIC HIK AXIAL	10000 pF	16V	Y	D005103773530	1	
C827	ELECT GE 85C	100 uF	10V	M	D040101082100	1	
C828	CERAMIC T.C DISC	18 pF	50V	J	D000180167070	1	
C829	CERAMIC T C DISC	18 pF	50V	J	D000180167070	1	
C830	ELECT GE 85C	100 uF	10V	M	D040101082100	1	
C831	CERAMIC HIK AXIAL	22 pF	50V		D005220067530	1	
C832	CERAMIC T.C AXIAL	33P pF	50V	J	D001330067530	1	
C833	ELECT GE 85C	1 uF	50V	M	D040010087100	1	
C834	ELECT GE 85C	4.7 uF	50V	M	D0404R7087100	1	
C835	ELECT GE 85C	47 uF	16V	M	D040470083100	1	
C836	ELECT GE 85C	10 uF	50V	M	D040100087100	1	
C837	ELECT GE 85C	100 uF	10V	M	D040101082100	1	
C838	CERAMIC HIK AXIAL	10000 pF	16V	Y	D005103773530	1	
C839-C841	CERAMIC T C AXIAL	100 pF	50V	J	D001101077530	3	
C842	ELECT GE 85C	0.33 uF	50V	M	D040R33087100	1	
C843-C846	CERAMIC HIK AXIAL	0.1 uF	50V	F	D005104097530	4	
C847	CERAMIC CHIP	2.2 pF	50V	F	D0012R2077520	1	
	CONNECTOR						
CP452	CN.WAFER 2.0MM, 14P				L101352371410	1	
CP456	CN.WAFER 2.0MM, 3P				L101031000010	1	
	DIODES						
D801-D811	1N4148, SWITCHING				K000414801520	11	
	INTEGRATED CIRCUITS						
IC801	LC7824(M), VIDEO SW				J080782400000	1	
IC802	LC7824(R), VIDEO SW				J080782400000	1	
IC803	MC14577(R), MONITOR				J170145770000	1	
IC804	MC14577(M), MONITOR				J170145770000	1	
IC805	BA7046, VIDEO SYNC				J080704600000	1	
IC806	M35010-001SP, ON SCREEN DISP				J080350100010	1	
	COIL						
L802	INDUCTOR COIL 22UH				D330220001020	1	
	TRANSISTORS						
Q801	KTC2878, NPN				J502287800000	1	
Q802	DTA114YS, PNP, PNP				J6000114Y0010	1	
Q803	2SA933S, PNP				J5009330S0050	1	
Q804	2SC1740, NPN				J5021740Y0050	1	
Q805	DTC114YS, NPN				J6020114Y0050	1	
	RESISTORS						
R801	METAL FILM	82 ohm	1/5W	J	C06008206P520	1	
R802	METAL FILM	10 ohm	1/5W	J	C06001006P520	1	
R803	METAL FILM	82 ohm	1/5W	J	C06008206P520	1	
R804	METAL FILM	10 ohm	1/5W	J	C06001006P520	1	
R805	METAL FILM	82 ohm	1/5W	J	C06008206P520	1	
R806	METAL FILM	10 ohm	1/5W	J	C06001006P520	1	
R807	METAL FILM	75 ohm	1/5W	J	C06007506P520	1	
R808	METAL FILM	82 ohm	1/5W	J	C06008206P520	1	
R809	METAL FILM	10 ohm	1/5W	J	C06001006P520	1	
R810	METAL FILM	75 ohm	1/5W	J	C06007506P520	1	
R811/R812	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	2	
R813	CARBON FILM	33 Kohm	1/5W	J	C00003336P520	1	
R814	CARBON FILM	470 Kohm	1/5W	J	C00004746P520	1	
R815	CARBON FILM	150 Kohm	1/5W	J	C00001546P520	1	
R816	CARBON FILM	1 Mohm	1/5W	J	C00001056P520	1	
R817	CARBON FILM	470 Kohm	1/5W	J	C00004746P520	1	
R818	METAL FILM	330 ohm	1/5W	J	C06003316P520	1	
R820	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	1	
R821	METAL FILM	75 ohm	1/5W	J	C06007506P520	1	

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
R822	CARBON FILM	2 Kohm	1/5W	J	C00002026P520	1	
R823	CARBON FILM	1 Mohm	1/5W	J	C00001056P520	1	
R824	METAL FILM	470 ohm	1/5W	J	C06004716P520	1	
R825	METAL FILM	3.3 Kohm	1/5W	J	C06003326P520	1	
R826	CARBON FILM	47 Kohm	1/5W	J	C00004736P520	1	
R827	METAL FILM	68 ohm	1/5W	J	C06006806P520	1	
R828	CARBON FILM	8.2 Kohm	1/5W	J	C00008226P520	1	
R829	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R830	CARBON FILM	68 Kohm	1/5W	J	C00006836P520	1	
R831	METAL FILM	100 ohm	1/5W	J	C06001016P520	1	
R832	METAL FILM	1 Kohm	1/5W	J	C06001026P520	1	
R833	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R834	METAL FILM	2.2 Kohm	1/5W	J	C06002226P520	1	
R835	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	1	
R836	METAL FILM	1 Kohm	1/5W	J	C06001026P520	1	
R837	METAL FILM	1 Kohm	1/5W	J	C06001026P520	1	
R838	METAL FILM	1 Kohm	1/5W	J	C06001026P520	1	
R839	METAL FILM	1 Kohm	1/5W	J	C06001026P520	1	
R840	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R841	CARBON FILM	6.8 Kohm	1/5W	J	C00006826P520	1	
	CRYSTALS						
X801	14.31818MHZ, CRYSTAL				E80014R318020	1	A/K
X801	17.734475MHz, CRYSTAL				E80017R733420	1	D/RDS
PCB3	**ASSEMBLY P.C.BOARD DTS/AC3**				**7028040955000**		
	CAPACITORS						
C1	CERAMIC CHIP HIK	0.01 uF	50V	Z	D011103177210	1	
C10	ELECT GE 85C	1000 uF	6.3V	M	D040102081060	1	
C100-C106	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	7	
C107	ELECT GE 85C	100 uF	6.3V	M	D040101081120	1	
C108	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	
C109	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	
C11	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	
C110	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	
C111	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	
C112	ELECT GE 85C	10 uF	50V	M	D040100087050	1	
C113	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C114	ELECT GE 85C	100 uF	16V	M	D040101083180	1	
C115	ELECT GE 85C	100 uF	16V	M	D040101083180	1	
C116	ELECT GE 85C	47 uF	16V	M	D040470083020	1	
C117	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C118	ELECT GE 85C	47 uF	16V	M	D040470083020	1	
C119	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C12	ELECT GE 85C	3.3 uF	50V	Z	D0403R3087120	1	
C12	ELECT GE 85C	3.3 uF	50V	M	D0403R3087120	1	
C120	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C121	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C122	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C123	ELECT GE 85G	10 uF	16V	M	D040100083020	1	
C124-C126	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	3	
C127	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C128/C129	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	2	
C13	ELECT GE 85C	1 uF	50V	M	D040010087120	1	
C130/C131	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	2	
C132-C134	ELECT GE 85C	100 uF	6.3V	M	D040101081120	3	
C135	CERAMIC CHIP T.C	470 pF	1/10W	J	D010471167200	1	
C136	ELECT GE 85C	100 uF	6.3V	M	D040101081120	1	
C137-C139	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	3	
C14	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C140-C145	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	7	
C147	ELECT GE 85C	1000 uF	6.3V	M	D040102081060	1	
C148	CERAMIC CHIP T.C	10 pF			D010100167210	1	
C149	CERAMIC CHIP HIK	0.01 uF	50V	Z	D011103177210	1	
C15	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	
C150-C152	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	3	
C153	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C16	ELECT GE 85C	3.3 uF	50V	M	D0403R3087120	1	
C17	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	
C18/C19	CERAMIC CHIP T.C	22 pF	50V	J	D010220167200	2	
C2	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C20	ELECT GE 85C	1 uF	50V	M	D040010087120	1	
C21-C24	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	4	
C25	ELECT GE 85C	1 uF	50V	M	D040010087120	1	
C26	CERAMIC CHIP HIK	0.0015 uF	50V	Z	D011152177210	1	
C27	CERAMIC CHIP HIK	0.015 uF	50V	Z	D011152177210	1	
C28	ELECT GE 85C	47 uF	16V	M	D040470083120	1	
C29	ELECT BP 85C	1 uF	50V	M	D040010087120	1	
C3	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C30	ELECT GE 85C	1 uF	50V	M	D040010087120	1	
C31	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	
C32	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	
C33	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	
C34	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	
C35	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C36	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C37	ELECT GE 85C	10 uF	50V	M	D040100083020	1	

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
C38	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	
C39	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	
C4	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C40/C41	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	2	
C42	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	
C43	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C44	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C45	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C46	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	
C47	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	
C48	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	
C49	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	
C5	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C50	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	
C51	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C52	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C53	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C54	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	
C55	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	
C56	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	
C57	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	
C58	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	
C59	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C6	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C60	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C61	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C62	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	
C63	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	
C64/C65	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	2	
C66	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	
C67	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C68	CERAMIC CHIP HIK	0.022 uF	50V	B	D011223177210	1	
C69	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C7	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C70	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C71	CERAMIC CHIP T.C	75 pF	50V		D010750167210	1	
C72	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C73	CERAMIC CHIP HIK	0.01 uF	50V	Z	D011103177210	1	
C74	ELECT GE 85C	47 uF	16V	M	D040470083120	1	
C75/C76	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	2	
C77	ELECT GE 85C	47 uF	16V	M	D040470083120	1	
C78/C79	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	2	
C8	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C80	CERAMIC CHIP HIK	0.001 uF	50V	M	D011102177210	1	
C81	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C82	ELECT GE 85C	10 uF	16V	M	D040100083020	1	
C83	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C84	ELECT GE 85C	47 uF	16V	M	D040470083120	1	
C85	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C86	ELECT BP 85C	47 uF	10V	M	D042470082110	1	
C87	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C88	ELECT GE 85C	47 uF	16V	M	D040470083120	1	
C89	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C9	ELECT GE 85C	1000 uF	6.3V	M	D040102081060	1	
C90	CERAMIC CHIP HIK	0.01 uF	50V	Z	D011103177210	1	
C91	ELECT GE 85C	47 uF	16V	M	D040470083120	1	
C92	CERAMIC CHIP HIK	0.01 uF	50V	Z	D011103177210	1	
C93	CERAMIC CHIP T.C	2 pF	50V		D010020117210	1	
C94	CERAMIC CHIP T.C	18 pF	50V	J	D010180167200	1	
C95	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C96	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	
C97/C98	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	
C99	ELECT GE 85C	47 uF	16V	M	D040470083120	1	
	CRYSTALS						
X1	X-TAL, 24.576MHZ				E800245760810	1	
X2	RESONATOR, CST4.19M				E830419000060	1	
X3	X-TAL, 18.432MHZ				E800184320810	1	
X4	CRTSTAL 1MHz				E800100000700	1	
	COILS						
L1/L2	COIL, FILTER INDUCTOR 10uH				D330100700520	2	
L3	COIL, INDUCTOR 68uH				D330680001020	1	
L4/L5/L6/L7	BEAD COIL BK2125HS121-T				7611010000000	4	
	INTEGREATED CIRCUITS						
IC1	XCF56009F, AC-3 DECODER				J080560098110	1	
IC10	NJM 2068DD OP				J121206800000	1	
IC11	PM4007A AC-3 DEMODULATOR				J080400700010	1	
IC12	KM68257CJ SRAM				J001682510010	1	
IC13	NJM 2068DD, OP				J121206800000	1	
IC14	UPD78042FGF-065-3B9/QFP80P, CPU				J020780420650	1	
IC15	MC74HC76N DIP16				J040747600040	1	
IC16/IC17	MC74HCU04AD, INVERTER				J040740400200	2	
IC18	DSP I56009FJ81, DTS DECODER				J080560098120	1	
IC19	KM62256 AD/DA CONV				J080422600010	1	
IC2	HY534256A-J-70 DRAM				J001534256000	1	

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
IC20	NM27CO10, EPROM				J089384261330	1	
IC3	HY534256A-J-70, DRAM				J001534256000	1	
IC4	CS4226, AD/DA CONV				J080422600010	1	
IC5	NJM 2068DD, OP				J121206800000	1	
IC6	PC74HC157, QUAD 2-IN MAX				J040741570020	1	
IC7	MC14577BP, MONITOR				J170145770000	1	
IC8/IC9	NJM 2068DD, OP				J121206800000	2	
	TRANSISTORS						
Q1	DTC114YS, NPN				J6020114Y0050	1	
Q10/Q11	2SA933, PNP				J5000933S0050	2	
Q12/Q13	2SC1740, NPN				J5021740S0010	2	
Q2/Q3	DTC114YS, NPN				J6020114Y0050	2	
Q8/Q9	2SC1740, NPN				J5021740S0010	2	
	RESISTORS						
R1	CHIP THICK	20 Kohm	1/10W	J	C200020360200	1	
R10	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R100	CHIP THICK	27 Kohm	1/10W	J	C200027360200	1	
R101-R103	CHIP THICK	47 Kohm	1/10W	J	C200047360200	3	
R104	CHIP THICK	47 ohm	1/10W	J	C200047060200	1	
R105-R108	CHIP THICK	10 Kohm	1/10W	J	C200010360200	4	
R109	CHIP THICK	100 ohm	1/10W	J	C200010160200	1	
R11	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R110	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R111	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R112	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R113-R115	CHIP THICK	22 ohm	1/10W	J	C200022060200	3	
R116-R119	CHIP THICK	33 ohm	1/10W	J	C200033060200	4	
R12	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R120-R122	CHIP THICK	33 ohm	1/10W	J	C200033060200	3	
R123	CHIP THICK	47 Kohm	1/10W	J	C200047360200	1	
R124	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R125-R129	CHIP THICK	47 Kohm	1/10W	J	C200047360200	5	
R13	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R130-R132	CHIP THICK	10 Kohm	1/10W	J	C200010360200	3	
R133	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R134	CHIP THICK	82 ohm	1/10W	J	C200082060200	1	
R135/R136	CHIP THICK	220 ohm	1/10W	J	C200022160200	2	
R137	CHIP THICK	4.7 Kohm	1/10W	J	C200047260200	1	
R138	CHIP THICK	18 Kohm	1/10W	J	C200018360200	1	
R139	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R14	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R140	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R141	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R142	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R144	CHIP THICK	470 ohm	1/10W	J	C200047160200	1	
R145	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R146	CHIP THICK	220 ohm	1/10W	J	C200022160200	1	
R147	CHIP THICK	22 ohm	1/10W	J	C200022060200	1	
R148	NETWORK, 22K (9P)				C180223091630	1	
R149	CHIP THICK	22 ohm	1/10W	J	C200022060200	1	
R15	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R150-R152	CHIP THICK	22 ohm	1/10W	J	C200022060200	3	
R153-R155	CHIP THICK	33 ohm	1/10W	J	C200033060200	3	
R156-R158	NETWORK, 22K (9P)				C180223091630	3	
R159	CHIP THICK	47 Kohm	1/10W	J	C200047360200	1	
R16	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R160/R161	CHIP THICK	100 Kohm	1/10W	J	C200010460200	2	
R162	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R163	CHIP THICK	470 ohm	1/10W	J	C200047160200	1	
R164	CHIP THICK	22 Kohm	1/10W	J	C200022360200	1	
R165	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R166	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R17	CHIP THICK	470 ohm	1/10W	J	C200047160200	1	
R18	CHIP THICK	43 Kohm	1/10W	J	C200043360200	1	
R19	CHIP THICK	470 ohm	1/10W	J	C200047160200	1	
R2	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R20	CHIP THICK	1.5 Kohm	1/10W	J	C200015260200	1	
R21	CHIP THICK	2.7 Kohm	1/10W	J	C200027260200	1	
R22	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R23	CHIP THICK	820 ohm	1/10W	J	C200082160200	1	
R24	CHIP THICK	12 Kohm	1/10W	J	C200012360200	1	
R25	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R26	CHIP THICK	3 Kohm	1/10W	J	C200030260200	1	
R27/R28	CHIP THICK	1.5 Kohm	1/10W	J	C200015260200	2	
R29	CHIP THICK	2.7 Kohm	1/10W	J	C200027260200	1	
R3	CHIP THICK	3 Kohm	1/10W	J	C200030260200	1	
R30	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R31	CHIP THICK	820 ohm	1/10W	J	C200082160200	1	
R32	CHIP THICK	12 Kohm	1/10W	J	C200012360200	1	
R33	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R34	CHIP THICK	3 Kohm	1/10W	J	C200030260200	1	
R35/R36	CHIP THICK	1.5 Kohm	1/10W	J	C200015260200	1	
R37	CHIP THICK	2.7 Kohm	1/10W	J	C200027260200	1	
R38	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R39	CHIP THICK	820 ohm	1/10W	J	C200082160200	1	

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
R4	CHIP THICK	20 Kohm	1/10W	J	C200020360200	1	
R40	CHIP THICK	12 Kohm	1/10W	J	C200012360200	1	
R41	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R42	CHIP THICK	3 Kohm	1/10W	J	C200030260200	1	
R43/R44	CHIP THICK	1.5 Kohm	1/10W	J	C200015260200	2	
R45	CHIP THICK	2.7 Kohm	1/10W	J	C200027260200	1	
R46	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R47	CHIP THICK	820 ohm	1/10W	J	C200082160200	1	
R48	CHIP THICK	12 Kohm	1/10W	J	C200012360200	1	
R49	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R5	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R50	CHIP THICK	3 Kohm	1/10W	J	C200030260200	1	
R51/R52	CHIP THICK	1.5 Kohm	1/10W	J	C200015260200	2	
R53	CHIP THICK	2.7 Kohm	1/10W	J	C200027260200	1	
R54	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R55	CHIP THICK	820 ohm	1/10W	J	C200082160200	1	
R56	CHIP THICK	12 Kohm	1/10W	J	C200012360200	1	
R57	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R58	CHIP THICK	3 Kohm	1/10W	J	C200030260200	1	
R59	CHIP THICK	1.5 Kohm	1/10W	J	C200015260200	1	
R6	CHIP THICK	1.5 Kohm	1/10W	J	C200015260200	1	
R60	CHIP THICK	1.5 Kohm	1/10W	J	C200015260200	1	
R61	CHIP THICK	2.7 Kohm	1/10W	J	C200027260200	1	
R62	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R63	CHIP THICK	820 ohm	1/10W	J	C200082160200	1	
R64	CHIP THICK	12 Kohm	1/10W	J	C200012360200	1	
R65-R67	CHIP THICK	1 ohm	1/10W	J	C200001060200	3	
R68	CHIP THICK	560 ohm	1/10W	J	C200056160200	1	
R69	CHIP THICK	91 ohm	1/10W	J	C200091060200	1	
R7	CHIP THICK	2.2 ohm	1/10W	J	C2002R2060200	1	
R70/R71	CHIP THICK	1 Kohm	1/10W	J	C200010260200	2	
R72	CHIP THICK	4.7 Kohm	1/10W	J	C200047260200	1	
R73	CHIP THICK	150 ohm	1/10W	J	C200015160200	1	
R74	CHIP THICK	2.2 Kohm	1/10W	J	C200022260200	1	
R75-R79	CHIP THICK	1 Kohm	1/10W	J	C200010260200	5	
R8	CHIP THICK	1 Mohm	1/10W	J	C200010560200	1	
R80	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R81	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R82	CHIP THICK	4.7 Kohm	1/10W	J	C200047260200	1	
R83	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R84	CHIP THICK	3.3 Kohm	1/10W	J	C200033260200	1	
R85	CHIP THICK	1 Kohm	1/10W	J	C200010260200	1	
R86	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R87	CHIP THICK	1.8 Kohm	1/10W	J	C200018260200	1	
R88	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R89	CHIP THICK	4.7 Kohm	1/10W	J	C200047260200	1	
R9	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R90	CHIP THICK	100 Kohm	1/10W	J	C200010460200	1	
R91	CHIP THICK	4.7 Kohm	1/10W	J	C200047260200	1	
R92	CHIP THICK	3.9 Kohm	1/10W	J	C200039260200	1	
R93	CHIP THICK	8.2 Kohm	1/10W	J	C200082260200	1	
R94	CHIP THICK	33 Kohm	1/10W	J	C200033360200	1	
R95	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R96	CHIP THICK	10 Kohm	1/10W	J	C200010360200	1	
R97	CHIP THICK	47 Kohm	1/10W	J	C200047360200	1	
R98	CHIP THICK	120 ohm	1/10W	J	C200012160200	1	
R99	CHIP THICK	68 Kohm	1/10W	J	C200068360200	1	
	MISCELLANEOUS						
F2	FILTER BPF SPB4930 2.88MHZ				E440000010010	1	
D1	LED SLR-34URCF25				K500032101120	1	
D3	KV1851, VARACTOR				K080185100010	1	
OPT-1	MODULE OPTO RCVR PLR102				E944102000010	1	
PCB4	**ASSEMBLY P.C.BOARD FRONT**				**7028040952900**		**A**
PCB4	**ASSEMBLY P.C.BOARD FRONT**				**7028040952920**		**D**
PCB4	**ASSEMBLY P.C.BOARD FRONT**				**7028040952930**		**K**
PCB4	**ASSEMBLY P.C.BOARD FRONT**				**7028040952910**		**RDS**
	CAPACITORS						
C301-C311	CERAMIC T.C AXIAL	100 pF	50V	J	D001101077530	11	
C312/C313	FILM POLYESTER	0.047 uF	100V	J	D02047306C060	2	
C314	ELECT GE 85C	47 uF	50V	M	D040470087100	1	
C315	CERAMIC T.C AXIAL	100 pF	50V	J	D001101077530	1	
C316	ELECT GE 85C	0.1 uF	50V		D040R10087100	1	
C317	ELECT GE 85C	10 uF	35V	M	D040100085100	1	
C318	ELECT GE 85C	47 uF	25V	M	D040470084100	1	
C319	DOUBLE LAYER	0.047 pF	5.5V		D090473700200	1	
C320	ELECT GE 85C	10 uF	50V	M	D040100087100	1	
C321/C322	CERAMIC HIK AXIAL	820 pF	50V	K	D005821287520	2	
C323	ELECT GE 85C	47 uF	16V	M	D040470083100	1	
C324	FILM POLYESTER	0.1 uF	63V	K	D020104078060	1	
C325/C326	CERAMIC HIK DISC	1000 pF	50V	Z	D004102097060	2	
C327	CERAMIC HIK AXIAL	0.1 uF	50V	F	D005104097530	1	
C651L	CERAMIC T C AXIAL	100 pF	50V	J	D001101077530	1	
C651R	CERAMIC T.C AXIAL	100 pF	50V	J	D001101077530	1	

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
	CONNECTORS						
CN302	CTG 0740 S,T 1007(SLT)#26 2.0				L022074031320	1	
CN303	CTM 0314 51048(MOLD)*2 2877#26 2.0				L021031432320	1	
CN304	CTM 51048(MOLD)*2 2877#26 2.0				L021021032320	1	
CN306	CTG 0214 GIL-S,51088(MOLD)				L022021433320	1	
CP301	CF 12035SLS 35P ANG 1SIDE				L131120350010	1	
CP305	CNT GIL02PS2LSEF				L101220020010	1	
CP306	CN,WAFER 2.0MM, 2P				L101220020000	1	
CP454	CNT GIL-12P-S2L2-EF				L101220120010	1	
	DIODES						
D301-D311	1N4148, SWITCHING				K000414801520	11	
D318-D320	1N4148, SWITCHING				K000414801520	3	
D322	1N4148, SWITCHING				K000414801520	1	
D325	1N4148, SWITCHING				K000414801520	1	
	LED'S						
D312-D317	SLR-34URCF25, LED ROUND				K500032101120	6	
D321	SLR-34URCF25, LED ROUND				K500032101120	1	
	MISCELLEOUNS						
ENC(FUC)	VR. ROTARY/EC16B24D0002-ZZZ				C450042030010	1	
FL301	DISPLAY, FLT/FIP8DM7R GRN/RED				K530001890010	1	
HOLDER	HOLDER FL				4320040841010	1	
	INTEGREATED CIRCUITS						
IC301	CXP82860-127Q, CPU				J020828601270	1	
IC302	RMC MODULE CRV1G342-185BD				E940342210000	1	
	TRANSISTORS						
Q301-Q306	DTC114YS, NPN				J6020114Y0050	6	
Q307-Q312	2SC3199Y (BKTC3199Y), NPN				J5023199Y0050	6	
Q313	DTC114YS, NPN				J6020114Y0050	1	
Q314	2SC3199Y (BKTC3199Y), NPN				J5023199Y0050	1	
Q315	MPAS06, NPN				J5020600Y0050	1	
	RESISTORS						
R301-R304	CARBON FILM	47 Kohm	1/5W	J	C00004736P520	4	
R305-R315	METAL FILM	1 Kohm	1/5W	J	C06001026P520	11	
R316/R317	METAL FILM	3.3 ohm	1/5W	J	C0603R306P520	2	
R318	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	A/D/K
R319	METAL FILM	4.7 Kohm	1/5W	J	C06004726P520	1	
R320/R321	CARBON FILM	22 Kohm	1/5W	J	C00002236P520	2	
R322	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R323	CARBON FILM	22 Kohm	1/5W	J	C00002236P520	1	
R324-R327	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	4	
R328	CARBON FILM	1 Mohm	1/5W	J	C00001056P520	1	
R329	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	1	
R330	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R331	CARBON FILM	5.6 Kohm	1/5W	J	C00005626P520	1	
R332	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R333	CARBON FILM	1 Mohm	1/5W	J	C00001056P520	1	
R334-R336	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	3	
R337/R338	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	2	
R339-R341	CARBON FILM	5.6 Kohm	1/5W	J	C00005626P520	3	
R342-R352	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	11	
R353-R358	METAL FILM	470 ohm	1/5W	J	C06004716P520	6	
R359	METAL FILM	3.9 Kohm	1/5W	J	C06003926P520	1	
R360/R361	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	2	
R362	METAL FILM	1 Kohm	1/5W	J	C06001026P520	1	
R363	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R364	CARBON FILM	47 Kohm	1/5W	J	C00004736P520	1	
R365	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R366/R367	CARBON FILM	5.6 Kohm	1/5W	J	C00005626P520	2	
R368	CARBON FILM	22 Kohm	1/5W	J	C00002236P520	1	
R369	CARBON FILM	220 Kohm	1/5W	J	C00002246P520	1	
R370-R372	CARBON FILM	22 Kohm	1/5W	J	C00002236P520	3	
R373/R374	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	2	
R375/R376	METAL FILM	100 ohm	1/5W	J	C06001016P520	2	
R377-R380	METAL FILM	2.2 Kohm	1/5W	J	C06002226P520	4	
R381	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	1	RDS
R382-R384	CARBON FILM	68 Kohm	1/5W	J	C00006836P520	3	
R385	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R386	METAL FILM	4.7 Kohm	1/5W	J	C06004726P520	1	
R387	METAL FILM	180 ohm	1/5W	J	C06001816P520	1	
R388	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	1	
R389	CARBON FILM	8.2 Kohm	1/5W	J	C00008226P520	1	
R390	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	1	
R392	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	1	
R393	CARBON FILM	68 Kohm	1/5W	J	C00006836P520	1	
R394	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	1	
R395	CARBON FILM	1 Mohm	1/5W	J	C00001056P520	1	
R396-R399	CARBON FILM	10 Kohm	1/5W	J	C00001036P520	4	
R701L/R	METAL FILM	10 ohm	2W	J	C060010066520	2	
R741-R761	CARBON FILM	100 Kohm	1/5W	J	C00001046P520	21	
	TACT SW'S						

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
SW301-SW340	TACT SW/SKHV10920A	G180000270010	40	
	RESONATOR			
X301	RESONATOR CST10M	E830100000050	1	
PCB4-1	**ASSEMBLY P.C.BOARD SPKR**			
	CAPACITORS			
C701C/L/R	FILM POLYESTER 0.047 uF 100V J	D02047306C060	3	
C701SL/SR	FILM POLYESTER 0 047 uF 100V J	D02047306C060	2	
C702CD/LD/RD	CERAMIC HIK DISC 0.0047 uF 50V Z	D004472097060	3	
C702SLD/SRD	CERAMIC HIK DISC 0 0047 uF 50V Z	D004472097060	2	
C703CD/LD/RD	CERAMIC HIK DISC 0 0047 uF 50V Z	D004472097060	3	
C703SLD/SRD	CERAMIC HIK DISC 0.0047 uF 50V Z	D004472097060	2	
	CONNECTORS			
CN902	CTM 0524 35156 JE210 1007#18 3 96	L001241051800	1	
CN903	CN WIRE CTM0330 51067 JE1007#18 3.9	L021033044660	1	
CP901	PLUG JE202A2T3 ANG3P	L104202000310	1	
	RESISTORS			
R700L/R	CARBON FILM 22 Kohm 1/5W J	C00002236P520	2	
R701C	METAL FILM 10 ohm 2W J	C060010066520	1	
R701SL/SR	METAL FILM 10 ohm 2W J	C060010066520	2	
PCB4-2	**ASSEMBLY P.C.BOARD PUSH SW**			
CN111	CTM 0250 35191 JE210 1617#22 7.92	L021025041770	1	D/RDS
SW771	PUSH SW. ESB-8279V	G000041610000	1	D/RDS
PCB4-3	**ASSEMBLY P.C.BOARD TACT SW**			
CN304	CTM 51048(MOLD)*2 2877#26 2.0	L021021032320	1	A/K
SW761	TACT SW/SKHV10920A	G180000270010	1	A/K
			1	
PCB4-4	**ASSEMBLY P.C.BOARD H/P & SPKR SEL**			
	CAPACITORS			
C731L/R	CERAMIC HIK AXIAL 560 pF 50V K	D005561277520	2	
	CONNECTORS			
CN701	CTJ0540 JE201(5)	L001401051810	1	
CP306	CN WAFER 2 0MM 2P	L101220020000	1	
	RESISTORS			
R731L/R	CARBON FILM 15 Kohm 1/5W J	C00001536P520	2	
R732L/R	METAL FILM 470 ohm 2W J	C060047166520	2	
	MISCELLANEOUS			
JACK731	JACK D6 5/HTJ064-11D(G)	G402040161330	1	
SW731	SPKR ON/OFF SPLL 19X1M071 SU690	G000040960000	1	
JACK	CN WIRE/HEADPHONE. 5P	L000501050000	1	
PCB4-5	**ASSEMBLY P.C.BOARD ENC**			
C751/C752	CERAMIC HIK AXIAL 820 pF 50V K	D005821287520	1	
CN303	CTM 0314 51048(MOLD)*2 2877#26 2 0	L021031432320	1	
ENC (VOL)	S/W ROTARY ENCODER EVQ VER	C490041060010	1	
PCB4-6	**ASSEMBLY P.C.BOARD CNT**			
CP454	CN WAFER 2 0MM. 12P	L101220120010	1	
CN455	CN HOUSING 2 0MM. 7P	L121071000010	1	
CN456	CN HOUSING 2.0MM 3P	L121031000010	1	
CN457	CN HOUSING 2 0MM 7P	L121071000010	1	
PCB4-7	**ASSEMBLY P.C.BOARD TONE**			
	CAPACITORS		1	
C601L/R	ELECT GE 85C 4 7 uF 50V M	D0404R7087100	2	
C602L/R	CERAMIC T.C AXIAL 47 pF 50V J	D001470067530	2	
C603L/R	ELECT GE 85C 10 uF 16V M	D040100083120	2	
C604L/R	ELECT GE 85C 10 uF 16V M	D040100083120	2	
C605L/R	FILM POLYESTER 0.082 uF 63V J	D020823068050	2	
C606L/R	FILM POLYESTER 0.015 uF 63V J	D020153068050	2	
C607L/R	CERAMIC HIK DISC 0.022 uF 50V Z	D004223097060	2	
C608L/R	FILM POLYESTER 0.0033 uF 63V J	D020332068050	2	
C609L/R	FILM POLYESTER 0.33 uF 63V J	D020334068050	2	
C610L/R	FILM POLYESTER 0.0082 uF 63V J	D020822068050	2	
C611L/R	ELECT GE 85C 10 uF 50V M	D040100087100	2	
C613/C614	ELECT GE 85C 47 uF 25V M	D040470084100	2	
C615	ELECT GE 85C 3 3 uF 50V M	D0403R3087120	1	
C652L/R	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C654	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	1	
C656	ELECT GE 85C 33 uF 16V M	D040330083100	1	
C658	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	1	
	CONNECTORS			
CN305	CTG 0214 GIL-S 51088(MOLD) 2877#26 2 0	L022021433320	1	
CN454	CTG 1245 GILS GILT 1007#26 2 0	L022124534320	1	
CN602	CTG 0940 GILS GILT 2547#26 2.0	L022094071310	1	
	DIODES			
D652/D653	1N4148 SWITCHING	K000414801520	2	

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
	TRANSISTORS			
Q601	DTC114YS, NPN	J6020114Y0050	1	
Q602	DTA114YS, PNP	J6000114Y0010	1	
Q603L	2SK117Y, FET	J5441170Y0050	1	
Q603R	2SK117Y, FET	J5441170Y0050	1	
Q651	DTC114YS, NPN	J6020114Y0050	1	
	RESISTORS			
R601L/R	CARBON FILM 100 Kohm 1/5W J	C00001046P520	2	
R602L/R	CARBON FILM 1 Mohm 1/5W J	C00001056P520	2	
R603L/R	CARBON FILM 47 Kohm 1/5W J	C00004736P520	2	
R604L/R	METAL FILM 2.7 Kohm 1/5W J	C06002726P520	2	
R605L/R	CARBON FILM 10 Mohm 1/5W J	C00001066P520	2	
R606L/R	METAL FILM 4.7 Kohm 1/5W J	C06004726P520	2	
R607L/R	CARBON FILM 27 Kohm 1/5W J	C00002736P520	2	
R608L/R	METAL FILM 3.3 Kohm 1/5W J	C06003326P520	2	
R609L/R	CARBON FILM 22 Kohm 1/5W J	C00002236P520	2	
R610L/R	METAL FILM 560 ohm 1/5W J	C06005616P520	2	
R611L/R	METAL FILM 2.2 Kohm 1/5W J	C06002226P520	2	
R612L/R	METAL FILM 1.8 Kohm 1/5W J	C06001826P520	2	
R613L/R	CARBON FILM 100 Kohm 1/5W J	C00001046P520	2	
R614	CARBON FILM 100 Kohm 1/5W J	C00001046P520	1	
R615	CARBON FILM 1 Mohm 1/5W J	C00001056P520	1	
R616/R617	METAL FILM 220 ohm 1/5W J	C06002216P520	2	
R618L/R	CARBON FILM 1 Mohm 1/5W J	C00001056P520	2	
R651	METAL FILM 820 ohm 1/5W J	C06008216P520	1	
R652L/R	METAL FILM 470 ohm 1/5W J	C06004716P520	2	
R653	METAL FILM 75 ohm 1/5W J	C06007506P520	1	
R655C/Y	METAL FILM 82 ohm 1/5W J	C06008206P520	2	
	INTEGRATED CIRCUIT			
IC601	NJM2068M	J121206800020	1	
	VR'S			
VR601/VR602	VR ROTARY/K162Y0G-100KCX2	C455121402300	1	
VR603	VR, ROTARY/K161M0G-100K, BALANCE	G455111402000	1	
	MISCELLANEOUS			
SW651	TACT SW/SKHV10920A	G180000270010	1	
W651	WIRE LUG #24BK200 LF 0.5/0.	L046241020580	1	
JACK601	JACK RCA3P	G606040300000	1	
D651	SLR-34URCF25. LED ROUND	K500032101120	1	
PCB5	**ASSEMBLY P.C.BOARD INPUT**	**7028040954400**		
PCB5-1	**ASSEMBLY P.C.BOARD AUDIO INPUT**			
	CAPACITORS			
C401LD/RD	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C402LD/RD	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C403LD/RD	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C404LD/RD	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C405LD/RD	CERAMIC T C AXIAL 15 pF 50V J	D001150067530	2	
C406LD/RD	CERAMIC T C AXIAL 15 pF 50V J	D001150067530	2	
C407LD/RD	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C408LD/RD	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C409LD/RD	CERAMIC T C AXIAL 15 pF 50V J	D001150067530	2	
C410LD/RD	CERAMIC T C AXIAL 15 pF 50V J	D001150067530	2	
C411	ELECT GE 85C 47 uF 25V M	D040470084100	1	
C412	ELECT GE 85C 1 uF 50V M	D040010087100	1	
C413L/R	FILM POLYESTER 0.0018 uF 100V J	D02018206C060	2	
C414	ELECT GE 85C 47 uF 25V M	D040470084100	1	
C417	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	1	
C418-C421	ELECT GE 85C 47 uF 25V M	D040470084100	4	
C422L/R	ELECT GE 85C 4 7 uF 50V M	D0404R7087100	2	
C423L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C424L/R	ELECT GE 85C 4 7 uF 50V M	D0404R7087100	2	
C425L/R	ELECT GE 85C 4 7 uF 50V M	D0404R7087400	2	
C426LD/RD	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C427L/R	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C428L/R	ELECT GE 85C 4 7 uF 50V M	D0404R7087100	2	
C429LD/RD	CERAMIC HIK AXIAL 2200 pF 16V X	D005222773530	2	
C430L/R	ELECT GE 85C 33 uF 25V M	D040330084100	2	
C431L/R	FILM POLYESTER 0.0018 uF 100V J	D02018206C060	2	
C432L/R	FILM POLYESTER 0.0056 uF 100V J	D02056206C060	2	
C433L/R	ELECT GE 85C 1 uF 50V M	D040010087100	2	
C434L/R	FILM POLYESTER 0.0018 uF 100V J	D02018206C060	2	
C435/C436	ELECT GE 85C 47 uF 25V M	D040470084100	2	
C437/C438	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	2	
C465	ELECT GE 85C 47 uF 25V M	D040470084100	1	
C466	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	1	
	CONNECTORS			
CP401	CN WAFER 2 0MM. 11P	L101352371110	1	
CP402	CN WAFER 2 0MM. 8P	L101352370810	1	
	DIODE			
D401	1N4148 SWITCHING	K000414801520	1	

REF NO.	DESCRIPTION					PARTS NO.	Q'TY	VER.
	INTEGREATED CIRCUITS							
IC401	LC7821, LOGIC					J040782100010	1	
IC402-IC404	KIA4559 (KIA75559P), OP					J121455900010	3	
	COILS							
L401LD/RD	COIL INDUCTOR 47UH					D330470001020	2	
	RESISTORS							
R401L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R402L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R403L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R404L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R405L/R	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R406	METAL FILM	220	ohm	1/5W	J	C06002216P520	1	
R407	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	1	
R408-R412	METAL FILM	220	ohm	1/5W	J	C06002216P520	5	
R413-R415	METAL FILM	1	Kohm	1/5W	J	C06001026P520	3	
R416L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R417L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R418L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R419L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R420L/R	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R421L/R	CARBON FILM	91	Kohm	1/5W	J	C00009136P520	2	
R422L/R	CARBON FILM	91	Kohm	1/5W	J	C00009136P520	2	
R423L/R	METAL FILM	820	ohm	1/5W	J	C06008216P520	2	
R424L/R	CARBON FILM	43	Kohm	1/5W	J	C00004336P520	2	
R425L/R	CARBON FILM	560	Kohm	1/5W	J	C00005646P520	2	
R426L/R	METAL FILM	560	ohm	1/5W	J	C06005616P520	2	
R427L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R428/R429	METAL FILM	220	ohm	1/5W	J	C06002216P520	2	
R430L/R	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R431L/R	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R432L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R433L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R434L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R435L/R	CARBON FILM	47	Kohm	1/5W	J	C00004736P520	2	
R450L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R451L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R452L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R453L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R454L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R461-R463	METAL FILM	1	Kohm	1/5W	J	C06001026P520	3	
R464	METAL FILM	220	ohm	1/5W	J	C06002216P520	1	
PCB5-2	**ASSEMBLY P.C.BOARD VIDEO INPUT**							
	CAPACITORS							
C450LD/RD	CERAMIC HIK DISC	100	pF	50V	J	D004101067060	2	
C451LD/RD	CERAMIC HIK DISC	100	pF	50V	J	D004101067060	2	
C452LD/RD	CERAMIC HIK DISC	100	pF	50V	J	D004101067060	2	
C453LD/RD	CERAMIC HIK DISC	100	pF	50V	J	D004101067060	2	
C454LD/RD	CERAMIC HIK DISC	100	pF	50V	J	D004101067060	2	
C455LD/RD	CERAMIC HIK DISC	100	pF	50V	J	D004101067060	2	
C456LD/RD	CERAMIC T.C AXIAL	15	pF	50V	J	D001150067060	2	
C457LD/RD	CERAMIC T C AXIAL	15	pF	50V	J	D001150067060	2	
C458LD/RD	CERAMIC HIK DISC	100	pF	50V	J	D004101067060	2	
C459LD/RD	CERAMIC HIK DISC	100	pF	50V	J	D004101067060	2	
C460/C561	ELECT GE 85C	47	uF	25V	M	D040470084100	2	
C462L/R	ELECT GE 85C	10	uF	50V	M	D040100087100	2	
C463	ELECT GE 85C	47	uF	25V	M	D040470084100	1	
C464	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C470	CERAMIC HIK AXIAL	0.1	uF	50V	F	D005104097530	1	
	CONNECTORS							
CP451	CN WAFER 2.0MM, 13P					L101352371310	1	
CP457	CN WAFER 2MM, 7P					L101071000010	1	
	INTEGREATED CIRCUITS							
IC450	LC7821, LOGIC					J040782100010	1	
IC451	MC14053BCP, MOT					J040140530000	1	
	RESISTORS							
R455-R458	METAL FILM	3.3	Kohm	1/5W	J	C06003326P520	4	
R459	METAL FILM	220	ohm	1/5W	J	C06002216P520	1	
R460	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	1	
	DIODE							
D450	1N4148, SWITCHING					K000414801520	1	
	MISCELLANEOUS							
DI-LINK	TER.RCA 2PIN					G601200930030	1	
AUX/TV	TER.RCA 4PIN					G60240045003A	1	
WA--WA	1P 100MM 1007#18BK					L000101180010	1	
PCB6	**ASSEMBLY P.C.BOARD MAIN**					**7028040952700**		**A**
PCB6	**ASSEMBLY P.C.BOARD MAIN**					**7028040952720**		**D**
PCB6	**ASSEMBLY P.C.BOARD MAIN**					**7028040952730**		**K**
PCB6	**ASSEMBLY P.C.BOARD MAIN**					**7028040952710**		**RDS**

REF NO.	DESCRIPTION					PARTS NO.	Q'TY	VER.
	CAPACITORS							
C101	CERAMIC AC(SAFETY)	0.0047	uF	400V		D00847208K030	1	
C102D	CERAMIC AC(SAFETY)	0.0047	uF	400V		D00847208K030	1	
C103	FILM POLYESTER	0.1	uF	250V	M	D02010408H210	1	
C104	CERAMIC AC(SAFETY)	0.0047	uF	400V		D00847208K010	1	
C105-C107	FILM POLYESTER	0.047	uF	100V	J	D02047306C060	3	
C108	ELECT GE 85C	1000	uF	25V	M	D040102084200	1	
C109	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C110	CERAMIC HIK DISC	0.1	uF	50V	Z	D004104097060	1	
C111	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C112	FILM POLYESTER	0.22	uF	63V	M	D020224068050	1	
C113	ELECT GE 85C	47	uF	50V	M	D040470087100	1	
C114	ELECT GE 85C	10	uF	50V	M	D040100087100	1	
C115-C119	FILM POLYESTER	0.1	uF	250V	K	D02010407H080	5	
C120/C121	ELECT GE 85C	15000	uF	80V	M	D04015308B360	2	
C122-C124	FILM POLYESTER	0.047	uF	100V	J	D02047306C060	3	
C125	CERAMIC HIK AXIAL	10000	pF	16V	Y	D005103773530	1	
C126	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C127/C128	ELECT GE 85C	22000	uF	35V	M	D040222085200	2	
C129	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C130	CERAMIC HIK DISC	0.1	uF	50V	Z	D004104097060	1	
C131	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C132	CERAMIC HIK DISC	0.1	uF	50V	Z	D004104097060	1	
C133-C135	FILM POLYESTER	0.047	uF	100V	J	D02047306C060	3	
C138/C139	ELECT GE 85C	6800	uF	16V	M	D040682083000	2	
C140	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C141	CERAMIC HIK DISC	0.1	uF	50V	Z	D004104097060	1	
C142	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C143	CERAMIC HIK DISC	0.1	uF	50V	Z	D004104097060	1	
C144	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C145	CERAMIC HIK DISC	0.1	uF	50V	Z	D004104097060	1	
C146	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C147	CERAMIC HIK DISC	0.1	uF	50V	Z	D004104097060	1	
C148	ELECT GE 85C	1	uF	50V	M	D040010087100	1	
C149	CERAMIC HIK DISC	0.1	uF	50V	Z	D004104097060	1	
C150	ELECT GE 85C	22	uF	50V	M	D040220087100	1	
C151	ELECT GE 85C	470	uF	6.3V	M	D040471081100	1	
C152	CERAMIC HIK DISC	0.1	uF	50V	Z	D004104097060	1	
C153-C155	CERAMIC HIK DISC	100	pF	50V	J	D004101067060	3	
	CONNECTORS							
CP100	CN.WAFER 2.5MM					L102532911910	1	
CP101	CN.WAFER 3.96MM					L104353280300	1	
CP102	CN.WAFER 2.5MM, 6P					L102526706010	1	
CP103	CN WAFER 2.5MM, 4P					L102526704010	1	
CP111	CN WAFER 7.92MM					L108B2P300010	1	
CP141/CP142	CN WAFER 2.5MM, 2P					L102526702010	2	
CP201	CN.WAFER 2.5MM, 8P					L102526708010	1	
CP202	CN.WAFER 2.5MM, 7P					L102526707010	1	
CP301	CN FPC 1 25MM					L131120350010	1	
CP302	CN.WAFER 2 0MM, 7P					L101220070000	1	
CP302	CN.WAFER 3.96MM					L104353280200	1	
CP401	CN.WAFER 2 0MM, 11P					L101353361110	1	
CP402	CN.WAFER 2.0MM, 8P					L101353360810	1	
CP451	CN.WAFER 2 0MM, 13P					L101353361310	1	
CP452	CN.WAFER 2.0MM, 14P					L101353361410	1	
CP453	CN WAFER 2 0MM, 8P					L101353360810	1	
CP501	CN WAFER 2.0MM, 19P					L101353361910	1	
CP502	CN.WAFER 2.0MM, 15P					L101353361510	1	
CP151	CN WAFER 3 96MM					L104353280200	1	
CP751D	CN.WAFER 3.96MM					L104353280200	1	
CP801/CP802	CN WAFER 2 0MM, 13P					L101353361310	2	
CP902/CP903	CN WAFER 3 96MM					L104353130500	2	
	DIODES							
D101-D105	1N4003, RECTIFIER					K040400300520	5	
D106/D107	1N4148, SWITCHING					K000414801520	2	
D108/D109	1N4003, RECTIFIER					K040400300520	2	
D110	UZ30V, ZENER					K060300034520	1	
D111	MTZ9.1B, ZENER					K06009R124520	1	
D112	KBPC-2504W, RECTIFIER BRIDGE					K047250400010	1	
D113-D120	1N4003, RECTIFIER					K040400300520	8	
D121-D123	1N4148, SWITCHING					K000414801520	3	
D124	MTZ4.3B, ZENER					K06004R314520	1	
D125	MTZ9 1B, ZENER					K06009R124520	1	
D126-D130	1N4148, SWITCHING					K000414801520	5	
	FUSES							
F101	FUSE, 250V-8A					G650802251010	1	A
F101	FUSE, 250V-5A					G650502251160	1	D/RDS
F101	FUSE, 250V-6A					G650602251150	1	K
F102D	FUSE, 250V-T2A					G650202251160	1	D/RDS
F103	FUSE, 125V-315MA					G650311121160	1	A
F103	FUSE, 250V-T315MA					G650311251160	1	D/RDS
F103	FUSE, 250V-315MA					G650311251150	1	K
F104	FUSE, 125V-1 5A					G650152121150	1	A
F104	FUSE, 250V-T1 6A					G650162251160	1	D/RDS

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
F104	FUSE. 250V-1.5A	G650152251150	1	K
F105	FUSE. 125V-1 5A	G650152121150	1	A
F105	FUSE 250V-T1 6A	G650162251160	1	D/RDS
F105	FUSE. 250V-1.5A	G650152251150	1	K
F106	FUSE. 125V-2A	G650202121150	1	A
F106	FUSE. 250V-T2A	G650202251160	1	D/RDS
F106	FUSE. 250V-2A	G650202251150	1	K
F107	FUSE 125V-2A	G650202121150	1	A
F107	FUSE. 250V-2A	G650202251160	1	D/RDS
F107	FUSE. 250V-2A	G650202251150	1	K
	FUSE CLIPS			
F101-1/F101-2	FUSE CLIP	G645000040010	2	
F102-1/F102-2	FUSE CLIP	G645000040010	2	
F103-1/F103-2	FUSE CLIP	G645000040010	2	
F104-1/F104-2	FUSE CLIP	G645000040010	2	
F105-1/F105-2	FUSE CLIP	G645000040010	2	
F106-1/F106-2	FUSE CLIP	G645000040010	2	
	ITERGREATED CIRCUITS			
IC101	KIA7806. REGULATOR	J126780600120	1	
IC102	KIA7815 REGULATOR	J126781500020	1	
IC103	KIA7915 REGULATOR	J126791500030	1	
IC104	KIA7806. REGULATOR	J126780600120	1	
IC105	KIA7905. REGULATOR	J126790500070	1	
IC106	MC14094. LOGIC	J040140940000	1	
IC107	LTV817 OPTO COUPLER	K614817000001	1	
IC108	KIA7805 REGULATOR	J126780500270	1	
IC109	KIA7905. REGULATOR	J126790500070	1	
IC110	KIA7805 REGULATOR	J126780500270	1	
	COILS			
L901SL/SR	INDUCTOR COIL 0.5UH	D330900001320	2	
	TRANSISTORS			
Q101	2SC1740. NPN	J5021740Y0050	1	
Q102	MPSA56. PNP	J5005600Y0050	1	
Q103	KTA1266 PNP	J5001266Y0050	1	
Q104/Q105	2SC1740. NPN	J5021740Y0050	2	
Q106/Q107	DTA114YS PNP	J6000114Y0010	2	
Q108-Q113	DTC323TS NPN	J602323TS0050	6	
Q114	DTA114YS. PNP	J6000114Y0010	1	
	RESISTORS			
R100	CARBON FILM 3 3 Mohm 1/2W J	C000033564000	1	A
R101	METAL FILM 120 ohm 1/5W J	C06001216P520	1	
R102	METAL FILM 3 3 Kohm 1/5W J	C06003326P520	1	
R103	METAL FILM 15 ohm 1/5W J	C06001506P520	1	
R104/R105	METAL FILM 4 7 Kohm 1/5W J	C06004726P520	2	
R106	METAL FILM 56 ohm 1/5W J	C06005606P520	1	
R107	CARBON FILM 10 Kohm 1/5W J	C00001036P520	1	
R108	METAL FILM 1 Kohm 2W J	C06001026P520	1	
R109/R110	METAL FILM 10 ohm 2W J	C060010066520	2	
R111-R115	METAL FILM 4 7 ohm 2W J	C0604R7066520	5	
R116	CARBON FILM 100 Kohm 1/5W J	C00001046P520	1	
R117	CARBON FILM 68 Kohm 1/5W J	C00006836P520	1	
R118	METAL FILM 3.3 Kohm 1/5W J	C06003326P520	1	
R119	METAL FILM 4 7 Kohm 1/5W J	C06004726P520	1	
R120	METAL FILM 1 Kohm 1/5W J	C06001026P520	1	
R121	METAL FILM 1 5 Kohm 1/5W J	C06001526P520	1	
R122-R124	METAL FILM 1 Kohm 1/5W J	C06001026P520	3	
R125	CARBON FILM 6 8 Kohm 1/5W J	C00006826P520	1	
R126	METAL FILM 4.7 Kohm 1/5W J	C06004726P520	1	
R127	METAL FILM 470 ohm 1/5W J	C06004716P520	1	
R142SL/SR	CARBON FILM 24 Kohm 1/5W J	C00002436P520	2	
R143	CARBON FILM 24 Kohm 1/5W J	C00002436P520	1	
R144	CARBON FILM 100 Kohm 1/5W J	C00001046P520	1	
R901SL/SR	METAL FILM 22 ohm 1/5W J	C06002206P520	1	
R902SL/SR	METAL FILM 22 ohm 1/5W J	C06002206P520	1	
	MISCELLANEOUS			
RLY101	SDT-SS-112DM/12VDC.5A	G680125020010	1	
ST-BY TRANS	ST-BY TRANS. 230V	8200280000778	1	D/RDS
	ST-BY TRANS	8200280726070	1	K
	ST-BY TRANS. 120V	8200280890070	1	A
PCB7	**ASSEMBLY P.C.BOARD PROCESSOR**	**7028040954200**		**A**
PCB7	**ASSEMBLY P.C.BOARD PROCESSOR**	**7028040954220**		**D/K**
PCB7	**ASSEMBLY P.C.BOARD PROCESSOR**	**7028040954210**		**RDS**
	CAPACITORS			
C501L/R	FILM POLYESTER 0 1 uF 63V J	D020104068050	2	
C502L/R	FILM POLYESTER 0 1 uF 63V J	D020104068050	2	
C503L/R	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C504L/R	ELECT GE 85C 2 2 uF 50V M	D0402R2087100	2	
C505L/R	ELECT GE 85C 2 2 uF 50V M	D0402R2087100	2	
C506L/R	ELECT GE 85C 4 7 uF 50V M	D0404R7087100	2	
C507	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	1	

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
C508L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C509L/R	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C510L/R	ELECT GE 85C 0.47 uF 50V M	D040R47087100	2	
C511L/R	CERAMIC HIK AXIAL 22 pF 50V	D005220067530	2	
C512L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C513L/R	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	2	
C514L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C516	ELECT GE 85C 47 uF 25V M	D040470084100	1	
C517L/R	ELECT GE 85C 10 uF 50V M	D040100087100	2	
C518LD/RD	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C519	ELECT GE 85C 47 uF 25V M	D040470084100	1	
C520	ELECT GE 85C 1 uF 50V M	D040010087100	1	
C521-C523	ELECT GE 85C 47 uF 25V M	D040470084100	3	
C525	ELECT GE 85C 2.2 uF 50V M	D0402R2087100	1	
C526	FILM POLYESTER 0.1 uF 63V J	D020104068050	1	
C527	FILM POLYESTER 0.1 uF 63V J	D020104068050	1	
C528	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	1	
C529/C530	ELECT GE 85C 2.2 uF 50V M	D0402R2087100	2	
C531	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	1	
C532	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	1	
C533	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	1	
C534	ELECT GE 85C 0.47 uF 50V M	D040R47087100	1	
C535	CERAMIC HIK AXIAL 22 pF 50V	D005220067530	1	
C536	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	1	
C537	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	1	
C538/C539	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C540	ELECT GE 85C 10 uF 50V M	D040100087100	1	
C541D	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	1	
C543LD/RD	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C544L/R	FILM POLYESTER 0.1 uF 63V J	D020104068050	2	
C545L/R	FILM POLYESTER 0.1 uF 63V J	D020104068050	2	
C546L/R	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C547L/R	ELECT GE 85C 2.2 uF 50V M	D0402R2087100	2	
C548L/R	ELECT GE 85C 2.2 uF 50V M	D0402R2087100	2	
C549L/R	ELECT GE 85C 2.2 uF 50V M	D0402R2087100	2	
C550L/R	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C551L/R	ELECT GE 85C 2.2 uF 50V M	D0402R2087100	2	
C552L/R	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C553L/R	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	2	
C554L/R	ELECT GE 85C 0.47 uF 50V M	D040R47087100	2	
C555L/R	CERAMIC HIK AXIAL 22 pF 50V	D005220067530	2	
C556L/R	ELECT GE 85C 4 7 uF 50V M	D0404R7087100	2	
C557L/R	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C558L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C560L/R	ELECT GE 85C 10 uF 50V M	D040100087100	2	
C561LD/RD	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	2	
C562	ELECT GE 85C 47 uF 25V M	D040470084100	1	
C564	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	1	
C565L/R	CERAMIC HIK AXIAL 10000 pF 16V Y	D005103773530	1	
C566/C567	ELECT GE 85C 2.2 uF 50V M	D0402R2087100	2	
C568/C569	FILM POLYESTER 0.027 uF 63V J	D020273068050	2	
C570	ELECT GE 85C 2.2 uF 50V M	D0402R2087100	1	
C571	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	1	
C572	CERAMIC HIK AXIAL 0 1 uF 50V F	D005104097530	1	
C573	ELECT GE 85C 0.47 uF 50V M	D040R47087100	1	
C574	CERAMIC HIK AXIAL 22 pF 50V	D005220067530	1	
C575/C576	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C577	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	1	
C579	ELECT GE 85C 10 uF 50V M	D040100087100	1	
C580D	CERAMIC T C AXIAL 100 pF 50V J	D001101077530	1	
C581	CERAMIC HIK AXIAL 0 1 uF 50V F	D005104097530	1	
C582L/R	CERAMIC HIK AXIAL 220 pF 50V B	D005221077530	1	
C583	CERAMIC HIK AXIAL 220 pF 50V B	D005221077530	1	
C584	CERAMIC HIK AXIAL 5600 pF 16V K	D005562773530	1	
	CONNECTORS			
CN203	CTG 1022 S.T 1533(SHL2X5)#26 2.0	L021102277320	1	
CN501	CN WAFER 2 0MM. 19P	L101352371910	1	
CN502	CN WAFER 2 0MM. 15P	L101352371510	1	
CP602	CN WAFER 2 0MM. 9P	L101220090000	1	
	DIODES			
D501-D509	1N4148. SWITCHING	K000414801520	9	
D510	MTZ 5 1B. ZENER	K06005R114520	1	
	INTERGRATED CIRCUITS			
IC501	LC7822. ANALOG	J080782200000	1	
IC502	MC14053BCP. MOT	J040140530000	1	
IC503-IC505	LC7536 ELECT VR	J084753600010	3	
IC506/IC507	NJM2068DD OP	J121206800000	2	
IC509/IC510	NJM4580L. OP	J121458000030	2	
IC511/IC512	NJM2068DD. OP	J121206800000	2	
IC513	NJM4580L. OP	J121458000030	1	
IC514	NJM2068DD OP	J121206800000	1	
IC515	NJM4580L. OP	J121458000030	1	
IC516/IC517	NJM2068DD. OP	J121206800000	2	
IC518/IC519	NJM4580L. OP	J121458000030	2	

REF NO.	DESCRIPTION					PARTS NO.	Q'TY	VER.
	TRANSISTORS							
Q501-Q504	DTA114YS, PNP					J6000114Y0010	4	
Q505L/R	KTD302, NPN					J5031302B0050	2	
Q506L/R	KTD302, NPN					J5031302B0050	2	
Q507L/R	KTD302, NPN					J5031302B0050	2	
Q508L/R	KTD302, NPN					J5031302B0050	2	
Q509L/R	2SK117Y, FET					J5441170Y0050	2	
Q510L/R	2SK117Y, FET					J5441170Y0050	2	
	RESISTORS							
R500	CHIP THICK	820	Kohm	1/10W	J	C200082460200	1	
R501L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R502L/R	CARBON FILM	22	Kohm	1/5W	J	C00002236P520	2	
R503L/R	CARBON FILM	10	Kohm	1/5W	J	C00001036P520	2	
R504L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R506L/R	CARBON FILM	10	Kohm	1/5W	J	C00001036P520	2	
R507L/R	CARBON FILM	220	Kohm	1/5W	J	C00002246P520	2	
R508L/R	CARBON FILM	56	Kohm	1/5W	J	C00005636P520	2	
R509L/R	METAL FILM	1.5	Kohm	1/5W	J	C06001526P520	2	
R510	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	1	
R511L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R512/R513	METAL FILM	47	ohm	1/5W	J	C06004706P520	2	
R514L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R515L/R	CHIP THICK	820	Kohm	1/10W	J	C200082460200	2	
R516L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R517/R518	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R519L/R	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R520L/R	METAL FILM	2.2	Kohm	1/5W	J	C06002226P520	2	
R521	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	1	
R522	METAL FILM	47	ohm	1/5W	J	C06004706P520	1	
R523	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	1	
R524	CARBON FILM	10	Kohm	1/5W	J	C00001036P520	1	
R525	CARBON FILM	22	Kohm	1/5W	J	C00002236P520	1	
R526	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	1	
R527	METAL FILM	1.5	Kohm	1/5W	J	C06001526P520	1	
R528	CARBON FILM	22	Kohm	1/5W	J	C00002236P520	1	
R529/R530	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R531L/R	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R532	METAL FILM	1	Kohm	1/5W	J	C06001026P520	1	
R533	METAL FILM	47	ohm	1/5W	J	C06004706P520	1	
R534	METAL FILM	2.2	Kohm	1/5W	J	C06002226P520	1	
R535/R536	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R537/R538	CARBON FILM	33	Kohm	1/5W	J	C00003336P520	2	
R539	CARBON FILM	10	Kohm	1/5W	J	C00001036P520	1	
R540/R541	CARBON FILM	33	Kohm	1/5W	J	C00003336P520	2	
R542	CARBON FILM	5.6	Kohm	1/5W	J	C00005626P520	1	
R543	METAL FILM	4.7	Kohm	1/5W	J	C06004726P520	1	
R544	CARBON FILM	82	Kohm	1/5W	J	C00008236P520	1	
R545	CARBON FILM	15	Kohm	1/5W	J	C00001536P520	1	
R546	CARBON FILM	51	Kohm	1/5W	J	C00005136P520	1	
R547L/R	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R548	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	1	
R549L/R	CARBON FILM	3.3	Mohm	1/5W	J	C00003356P520	2	
R550L/R	CARBON FILM	3.3	Mohm	1/5W	J	C00003356P520	2	
R551	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	1	
R552	METAL FILM	1.2	Kohm	1/5W	J	C06001226P520	1	
R553	CARBON FILM	6.8	Kohm	1/5W	J	C00006826P520	1	
R554	METAL FILM	4.7	Kohm	1/5W	J	C06004726P520	1	
R555	METAL FILM	2.2	Kohm	1/5W	J	C06002226P520	1	
R556L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R557L/R	CARBON FILM	10	Kohm	1/5W	J	C00001036P520	2	
R558L/R	CARBON FILM	22	Kohm	1/5W	J	C00002236P520	2	
R559L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R560L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R561L/R	METAL FILM	1.5	Kohm	1/5W	J	C06001526P520	2	
R562L/R	CARBON FILM	22	Kohm	1/5W	J	C00002236P520	2	
R563L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R564L/R	CHIP THICK	820	Kohm	1/10W	J	C200082460200	2	
R565L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R566	METAL FILM	1	Kohm	1/5W	J	C06001026P520	1	
R567L/R	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R568L/R	METAL FILM	4.7	Kohm	1/5W	J	C06004726P520	2	
R569L/R	METAL FILM	2.2	Kohm	1/5W	J	C06002226P520	2	
R570-R573	CARBON FILM	15	Kohm	1/5W	J	C00001536P520	4	
R574	METAL FILM	2.2	Kohm	1/5W	J	C06002226P520	1	
R575	CARBON FILM	10	Kohm	1/5W	J	C00001036P520	1	
R576/R577	METAL FILM	1	Kohm	1/5W	J	C06001026P520	2	
R578	CARBON FILM	10	Kohm	1/5W	J	C00001036P520	1	
R579	METAL FILM	4.7	Kohm	1/5W	J	C06004726P520	1	
R580L/R	METAL FILM	470	ohm	1/5W	J	C06004716P520	2	
R581L/R	METAL FILM	47	ohm	1/5W	J	C06004706P520	2	
R582L/R	METAL FILM	1.8	Kohm	1/5W	J	C06001826P520	2	
R583	METAL FILM	2.7	Kohm	1/5W	J	C06002726P520	1	
R584	METAL FILM	3.9	Kohm	1/5W	J	C06003926P520	1	
R585	METAL FILM	47	ohm	1/5W	J	C06004706P520	1	
R586	CARBON FILM	33	Kohm	1/5W	J	C00003336P520	1	
R587	METAL FILM	4.7	Kohm	1/5W	J	C06004726P520	1	
R588	METAL FILM	1	Kohm	1/5W	J	C06001026P520	1	
R589L/R	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	2	
R590	METAL FILM	4.7	Kohm	1/5W	J	C06004726P520	1	
R591	METAL FILM	47	ohm	1/5W	J	C06004706P520	1	
R592L/R	METAL FILM	3.9	Kohm	1/5W	J	C06003926P520	1	
R593	CHIP THICK	820	Kohm	1/10W	J	C200082460200	1	
	MISCELLANEOUS							
JACK501	TER,RCA 4PIN					G602400450050	1	
JACK502	TER,RCA 2PIN					G601200440020	1	
JACK504	TER,RCA 2PIN					G601200440020	1	
PCB8	**ASSEMBLY P.C.BOARD S-VIDEO**					**7028040954800**		
	CAPACITORS							
C850-C853	ELECT GE 85C	10	uF	35V	M	D040100085100	4	
C854C/Y	ELECT GE 85C	10	uF	35V	M	D040100085100	2	
C855C/Y	ELECT GE 85C	10	uF	35V	M	D040100085100	2	
C856C/Y	ELECT GE 85C	10	uF	35V	M	D040100085100	2	
C857C/Y	ELECT GE 85C	10	uF	35V	M	D040100085100	2	
C858-C865	FILM POLYESTER	0.1	uF	63V	K	D020104078060	8	
C867	ELECT GE 85C	100	uF	10V	M	D040101082100	1	
C868	CERAMIC HIK DISC	0.01	uF	50V	Z	D004103097060	1	
C869	ELECT GE 85C	100	uF	10V	M	D040101082100	1	
C870	CERAMIC HIK DISC	0.01	uF	50V	Z	D004103097060	1	
C871	ELECT GE 85C	100	uF	10V	M	D040101082100	1	
C872	CERAMIC HIK DISC	0.01	uF	50V	Z	D004103097060	1	
C873	ELECT GE 85C	100	uF	10V	M	D040101082100	1	
C874	CERAMIC HIK DISC	0.01	uF	50V	Z	D004103097060	1	
C875	CERAMIC HIK AXIAL	0.1	uF	50V	F	D005104097530	1	
C875C/Y	ELECT GE 85C	10	uF	35V	M	D040100085100	2	
C876-C878	CERAMIC HIK AXIAL	0.1	uF	50V	F	D005104097530	3	
	CONNECTORS							
CP453	CN,WAFER 2.0MM, 8P					L101352370810	1	
CP455	CN,WAFER 2.0MM, 7P					L101071000010	1	
	INTEGRATED CIRCUITS							
IC850-IC853	LC7824 VIDEO SW					J080782400000	4	
IC854/IC855	MC14577, MONITOR					J170145770000	2	
	TRANSISTORS							
Q851C/Y	KTC2878, NPN					J502287800000	2	
	RESISTORS							
R850-R853	METAL FILM	10	ohm	1/5W	J	C06001006P520	4	
R854C/Y	METAL FILM	82	ohm	1/5W	J	C06008206P520	2	
R855C/Y	METAL FILM	82	ohm	1/5W	J	C06008206P520	2	
R856C/Y	METAL FILM	82	ohm	1/5W	J	C06008206P520	2	
R857C/Y	METAL FILM	75	ohm	1/5W	J	C06007506P520	2	
R858C/Y	METAL FILM	82	ohm	1/5W	J	C06008206P520	2	
R859C/Y	METAL FILM	75	ohm	1/5W	J	C06007506P520	2	
R860	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	1	
R860C/Y	METAL FILM	2.2	Kohm	1/5W	J	C06002226P520	2	
R861-R863	CARBON FILM	100	Kohm	1/5W	J	C00001046P520	3	
R864-R871	METAL FILM	1	Kohm	1/5W	J	C06001026P520	8	
PCB9	**ASSEMBLY P.C.BOARD TUNER**					**7028040953800**		**A/K**
PCB9	**ASSEMBLY P.C.BOARD TUNER**					**7028040780910**		**D**
PCB9	**ASSEMBLY P.C.BOARD TUNER**					**7028040957710**		**RDS**
	CAPACITORS							
C1	CERAMIC TUBULAR	0.022	uF	25 V		D005223574530	1	
C10	CERAMIC DISC	100	pF	50 V	J	D004101067060	1	
C11	ELECTROLYTIC SG	47	uF	16 V	M	D040470083100	1	
C12	CERAMIC DISC	0.022	uF	50 V	Z	D004223097060	1	
C13	CERAMIC TUBULAR	0.022	uF	25 V		D005223574530	1	
C14	ELECTROLYTIC SG	100	uF	16 V	M	D040101083100	1	
C15	POLY	470	pF	50 V	J	D022471067050	1	
C16	CERAMIC DISC CH	15	pF	50 V		D000150167070	1	
C17/C18	CERAMIC TUBULAR	0.022	uF	25 V		D005223574530	2	
C2	CERAMIC DISC	0.047	uF	50 V	Z	D004473097060	1	
C20	ELECTROLYTIC SG	10	uF	35 V	M	D040100085100	1	
C21/C22	CERAMIC TUBULAR	0.022	uF	25 V		D005223574530	2	
C23	CERAMIC TUBULAR	0.01	uF	16 V		D005103773530	1	
C24/C25	CERAMIC DISC	0.022	uF	50 V	Z	D004223097060	2	
C26	ELECTROLYTIC SG	4.7	uF	50 V	M	D0404R7087100	1	
C27	ELECTROLYTIC SG	3.3	uF	50 V	M	D0403R3087100	1	
C28	ELECTROLYTIC SG	4.7	uF	50 V	Z	D0404R7087100	1	
C29	CERAMIC DISC	0.022	uF	50 V	Z	D004223097060	1	
C3	ELECTROLYTIC SG	3.3	uF	50 V	M	D0403R3087100	1	
C30	MYLAR	0.022	uF	100 V	J	D02022306C060	1	
C31	MYLAR	0.0033	uF	100 V	J	D02033206C060	1	
C32	MYLAR	0.039	uF	100 V	J	D02039306C060	1	
C33	ELECTROLYTIC SG	1	uF	50 V	M	D040010087010	1	
C34	CERAMIC TUBULAR	0.022	uF	25 V		D005223574530	1	
C35	ELECTROLYTIC SG	100	uF	16 V	M	D040101083100	1	
C36	CERAMIC DISC	330	pF	50 V	J	D004331067060	1	

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
C37C	CERAMIC DISC	82 pF	50 V	J	D000820067060	1	D/RDS
C38C	CERAMIC DISC	100 pF	50 V	J	D004101067060	1	D/RDS
C39	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	1	
C4	CERAMIC TUBULAR	0.01 uF	16 V		D005103773530	1	
C40D	CERAMIC TUBULAR	0.022 uF	25 V		D005223574530	1	RDS
C41	ELECTROLYTIC SG	4.7 uF	50V	M	D0404R7087100	1	
C42	CERAMIC TUBULAR	0.047 uF	50 V		D005473097530	1	
C43	CERAMIC DISC	680 pF	50 V	J	D004681067060	1	
C44	ELECTROLYTIC SG	100 uF	16 V	M	D040101083100	1	
C45	ELECTROLYTIC SG	1 uF	50 V	M	D040010087100	1	
C46	ELECTROLYTIC SG	0.22 uF	50 V	M	D040R22087100	1	
C47	ELECTROLYTIC SG	1 uF	50 V	M	D040010087050	1	
C48	CERAMIC DISC	0.022 uF	50 V	Z	D004223097060	1	
C49	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	1	
C5	ELECTROLYTIC SG	47 uF	16 V	M	D040470083100	1	
C50L/R	CERAMIC DISC	220 pF	50 V	J	D004221067060	2	D/RDS
C50L/R	CERAMIC DISC	560 pF	50 V	J	D004561067060	2	A
C51L/R	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	2	
C53	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	1	
C54D	CERAMIC TUBULAR	270 pF	50 V		D005271077530	1	RDS
C55D	ELECTROLYTIC SG	47 uF	16 V	M	D040470083100	1	RDS
C56D	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	1	RDS
C57D	CERAMIC TUBULAR	0 1 uF	50 V		D005104097530	1	RDS
C58D/C59D	CERAMIC DISC	27 pF	50 V	J	D004270067060	1	RDS
C6	CERAMIC TUBULAR	0 022 uF	25 V		D005223574530	1	
C60D	ELECTROLYTIC SG	0 1 uF	50 V	Z	D004104097060	1	RDS
C62L/R	CERAMIC DISC	10 pF	50 V	J	D000100067060	2	D/RDS
C62L/R	CERAMIC DISC	68 pF	50 V	J	D000680067060	2	A
C7	CERAMIC TUBULAR	0.01 uF	16 V		D005103773530	1	
C8/C9	CERAMIC DISC CH	18 pF	50 V	B	D000180167070	2	
	CONNECTOR						
CN100	PLUG, 15P				L112524191900	1	
	CERAMIC FILTERS						
CF1	10 7MA8-A-TF21				E430107000140	1	A
CF1	10 7MS3GH-ATF21				E430107000150	1	D/RDS
CF3	10 7MA8-A-TF21				E430107000140	1	A
CF3	10.7MS3GH-ATF21				E430107000150	1	D/RDS
CF4	CFM2-450BL				E431450000120	1	
	DIODES						
D1	ZENER, UZ 5 1V BSB				K06005R114520	1	
D2	1N4148 SWITCHING				K000414801520	1	
D3D	ZENER, UZ 5.1V BSB				K06005R114520	1	RDS
VD1/V02	VARACTOR SVC321 SPA-C				K080032100520	2	
	INTEGRATED CIRCUITS						
IC1	LM7001M PLL				J124700100010	1	
IC2	LA1266G AM/FM IF				J124126600010	1	
IC3	LA3401, MPX				J124340100010	1	
IC4D	TDA7330BD, RDS DECODER				J020733000010	1	RDS
IC5D	LC7073M, ERROR CORRECTION				J124707300010	1	RDS
	TRANSISTORS						
Q1/Q2	2SC1740S, NPN				J5021740Y0050	2	
Q10D	DTC114YS NPN				J6020114Y0050	1	
Q3	KTC1923Y/BKTC3194Y, NPN				J5023194Y0050	1	
Q4-Q6	KRA107M/DTA114YS, PNP				J601107M00050	3	
Q7D	2SC1740S, NPN				J5021740Y0050	1	RDS
Q8L/R	DTC323TS, NPN				J602323TS0050	2	
Q9	KRA107M/DTA114YS, PNP				J601107M00050	1	
	RESISTORS						
R1	CARBON FILM	100 kohm	1/5 W	J	C00001046P520	1	
R10	METAL FILM	1 kohm	1/5 W	J	C06001026P520	1	
R11	METAL FILM	180 ohm	1/5 W	J	C06001816P520	1	
R11	METAL FILM	100 ohm	1/5 W	J	C06001016P520	1	D/RDS
R12	METAL FILM	560 ohm	1/5 W	J	C06005616P520	1	
R13	METAL FILM	3.3 kohm	1/5 W	J	C06003326P520	1	
R14	METAL FILM	560 ohm	1/5 W	J	C06005616P520	1	
R15	METAL FILM	470 ohm	1/5 W	J	C06004716P520	1	
R16	METAL FILM	100 ohm	1/5 W	J	C06001016P520	1	
R17-R19	METAL FILM	1 kohm	1/5 W	J	C06001026P520	3	
R2	CARBON FILM	5.6 kohm	1/5 W	J	C00005626P520	1	
R20	METAL FILM	330 ohm	1/5 W	J	C06003316P520	1	
R21	METAL FILM	270 ohm	1/5 W	J	C06002716P520	1	
R22	METAL FILM	470 ohm	1/5 W	J	C06004716P520	1	
R24	METAL FILM	4.7 kohm	1/5 W	J	C06004726P520	1	
R25	CARBON FILM	68 kohm	1/5 W	J	C00006836P520	1	
R26	CARBON FILM	18 kohm	1/5 W	J	C00001836P520	1	A
R26	CARBON FILM	39 kohm	1/5 W	J	C00003936P520	1	D/RDS
R27	CARBON FILM	10 kohm	1/5 W	J	C00001036P520	1	
R28	CARBON FILM	22 kohm	1/5 W	J	C00002236P520	1	
R29	METAL FILM	22 ohm	1/5 W	J	C06002206P520	1	
R3	CARBON FILM	22 kohm	1/5 W	J	C00002236P520	1	
R30	METAL FILM	4.7 kohm	1/5 W	J	C06004726P520	1	

REF NO.	DESCRIPTION				PARTS NO.	Q'TY	VER.
R31	CARBON FILM	10 kohm	1/5 W	J	C00001036P520	1	A
R31	METAL FILM	2.7 kohm	1/5 W	J	C06002726P520	1	D/RDS
R32	CARBON FILM	5.6 kohm	1/5 W	J	C00005626P520	1	
R33	METAL FILM	3.3 kohm	1/5 W	J	C06003326P520	1	
R34	METAL FILM	100 ohm	1/5 W	J	C06001016P520	1	
R35C	METAL FILM	1.8 kohm	1/5 W	J	C06001826P520	1	D/RDS
R36D	CARBON FILM	47 kohm	1/5 W	J	C00004736P520	1	D/RDS
R37D	METAL FILM	22 kohm	1/5 W	J	C06002206P520	1	RDS
R38D	METAL FILM	1 kohm	1/5 W	J	C06001026P520	1	RDS
R39	METAL FILM	100 ohm	1/5 W	J	C06001016P520	1	
R4	CARBON FILM	100 kohm	1/5 W	J	C00001046P520	1	
R40	CARBON FILM	47 kohm	1/5 W	J	C00004736P520	1	
R41	CARBON FILM	22 kohm	1/5 W	J	C00002236P520	1	
R42	METAL FILM	3.3 kohm	1/5 W	J	C06003326P520	1	
R43	CARBON FILM	22 kohm	1/5 W	J	C00002236P520	1	
R44	CARBON FILM	47 kohm	1/5 W	J	C00004736P520	1	
R46L/R	CARBON FILM	120 kohm	1/5 W	J	C00001246P520	2	A
R46L/R	CARBON FILM	220 kohm	1/5 W	J	C06002216P520	2	D/RDS
R47L/R	CARBON FILM	180 kohm	1/5 W	J	C00001846P520	2	A
R47L/R	CARBON FILM	270 kohm	1/5 W	J	C00002746P520	2	D/RDS
R48L/R	METAL FILM	2.7 kohm	1/5 W	J	C06002726P520	2	
R49L/R	METAL FILM	3.3 kohm	1/5 W	J	C06003326P520	2	
R5	METAL FILM	470 ohm	1/5 W	J	C06004716P520	1	
R50D	METAL FILM	680 ohm	1/5 W	J	C06006816P520	1	RDS
R51D-R54D	CARBON FILM	10 kohm	1/5 W	J	C00001036P520	4	RDS
R55D	METAL FILM	1 kohm	1/5 W	J	C06001026P520	1	RDS
R56D	CARBON FILM	2.2 Mohm	1/5 W	J	C00002256P520	1	RDS
R57L/R	METAL FILM	1 5 kohm	1/5 W	J	C06001526P520	2	RDS
R6	CARBON FILM	100 kohm	1/5 W	J	C00001046P520	1	
R7	CARBON FILM	10 kohm	1/5 W	J	C00001036P520	1	
R8	METAL FILM	270 ohm	1/5 W	J	C06002716P520	1	
R9	METAL FILM	560 ohm	1/5 W	J	C06005616P520	1	
	COILS						
T1	AM-ANT				D304564300000	1	
T2	AM-OSC				D940111027000	1	
T3	AM-IFT				D950010050000	1	
T4	FM-DET-A				D970010020000	1	
T5	FM-DET-B				D970010030000	1	
T6L/R	MPX(19/38kHz)				E401500100000	2	
	SEMI FIXED VARIABLE RESISTORS						
VR1	5K(B)-H				C541502115000	1	
VR2	50K(B)-H				C541503115000	1	
VR3	200K(B)-H				C541204115000	1	
	MISCELLANEOUS						
ANT1	TERMINAL ANT				G590040046000A	1	D/RDS
ANT1	TERMINAL ANT				G594040530000	1	
B	WIRE LUG				L046221014580	1	RDS
FE1	FM TUNER, FTA3-506HB				E900350600110	1	
FE1	FM TUNER, FTH4-460H				E900446000110	1	D/RDS
L1C	COIL INDUCTOR 20.8MH				D330208001120	1	D/RDS
TC1	CAPACITOR TREMMER, 10 pF				D110100901100	1	
X1	X-TAL, 7.2MHz				E800720000090	1	
X2	CSB456F, CRYSTAL				E830456000050	1	
X3D	X4M332, CRYSTAL				E800433200050	1	D/RDS

*** FRONT PCB ASS'Y (PCB4) INCLUDES THE FOLLOWING BOARDS.**

(1) **THE ASS'Y PCB SPKR (PCB4-1).**
(2) **THE ASS'Y PCB PUSH SW (PCB4-2).**
(3) **THE ASS'Y PCB TACK SW (PCB4-3).**
(4) **THE ASS'Y PCB H/P & SPKR SEL (PCB4-4).**
(5) **THE ASS'Y PCB ENC (PCB4-5).**
(6) **THE ASS'Y PCB CNT (PCB4-6).**
(7) **THE ASS'Y PCB TONE (PCB4-7).**

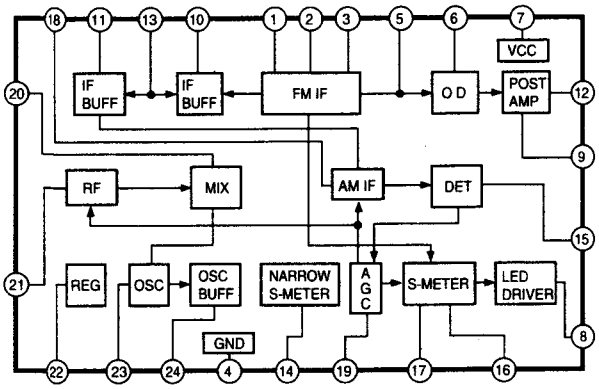
*** INPUT PCB ASS'Y (PCB5) INCLUDES THE FOLLOWING BOARDS.**

(1) **THE ASS'Y PCB AUDIO INPUT (PCB5-1).**
(2) **THE ASS'Y PCB VIDEO INPUT (PCB5-2).**

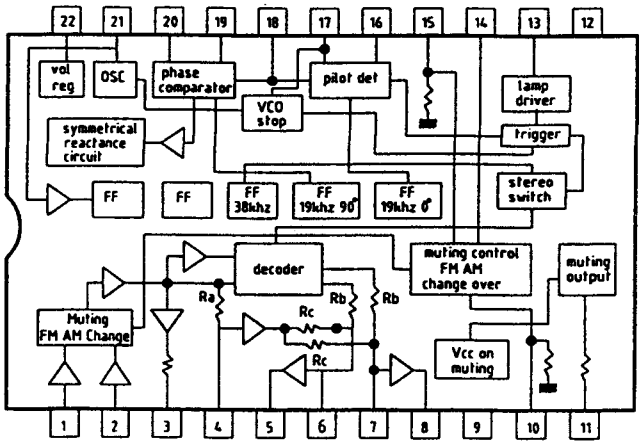
NOTES

IC'S FUNCTIONAL BLOCK DIAGRAM

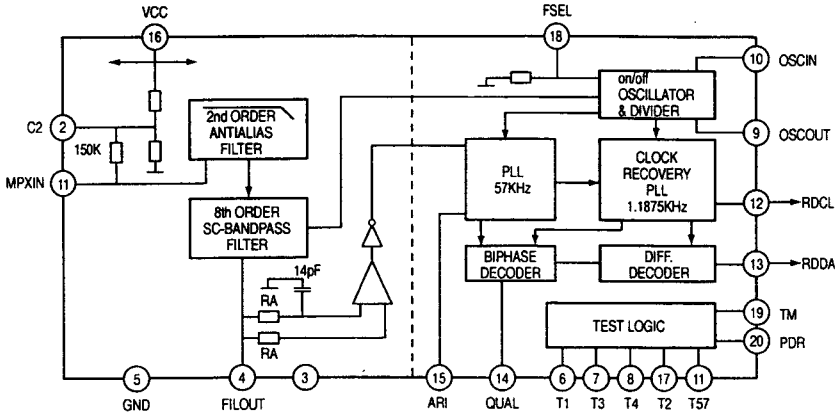
IC2 : LA1266G



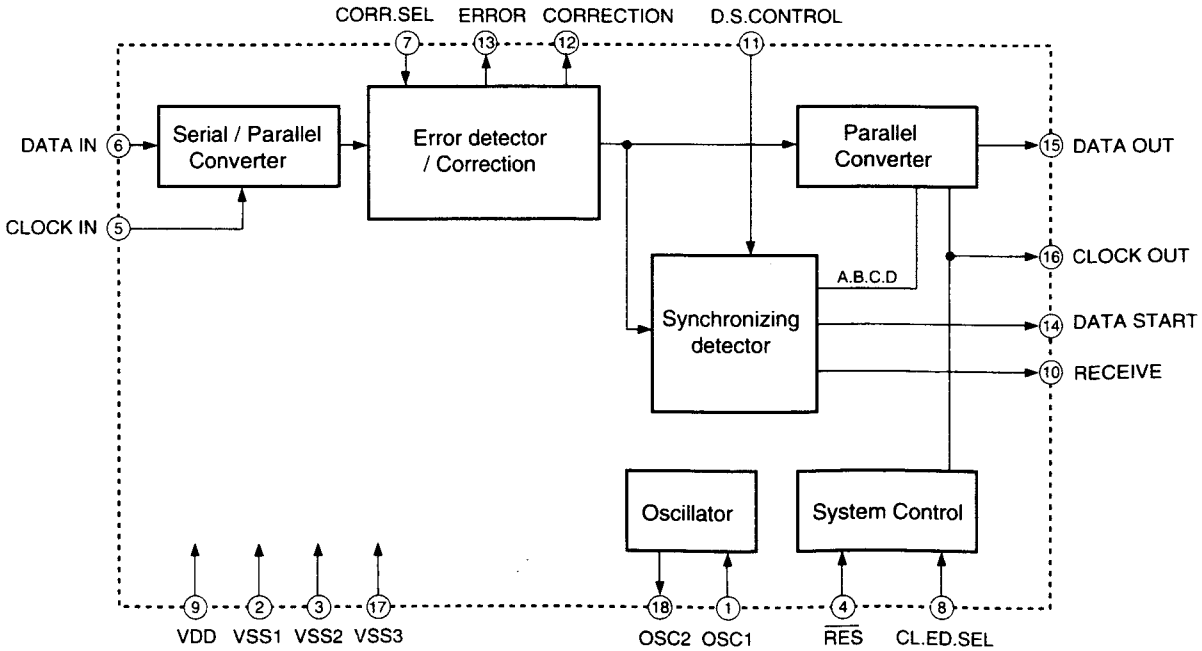
IC3 : LA3401



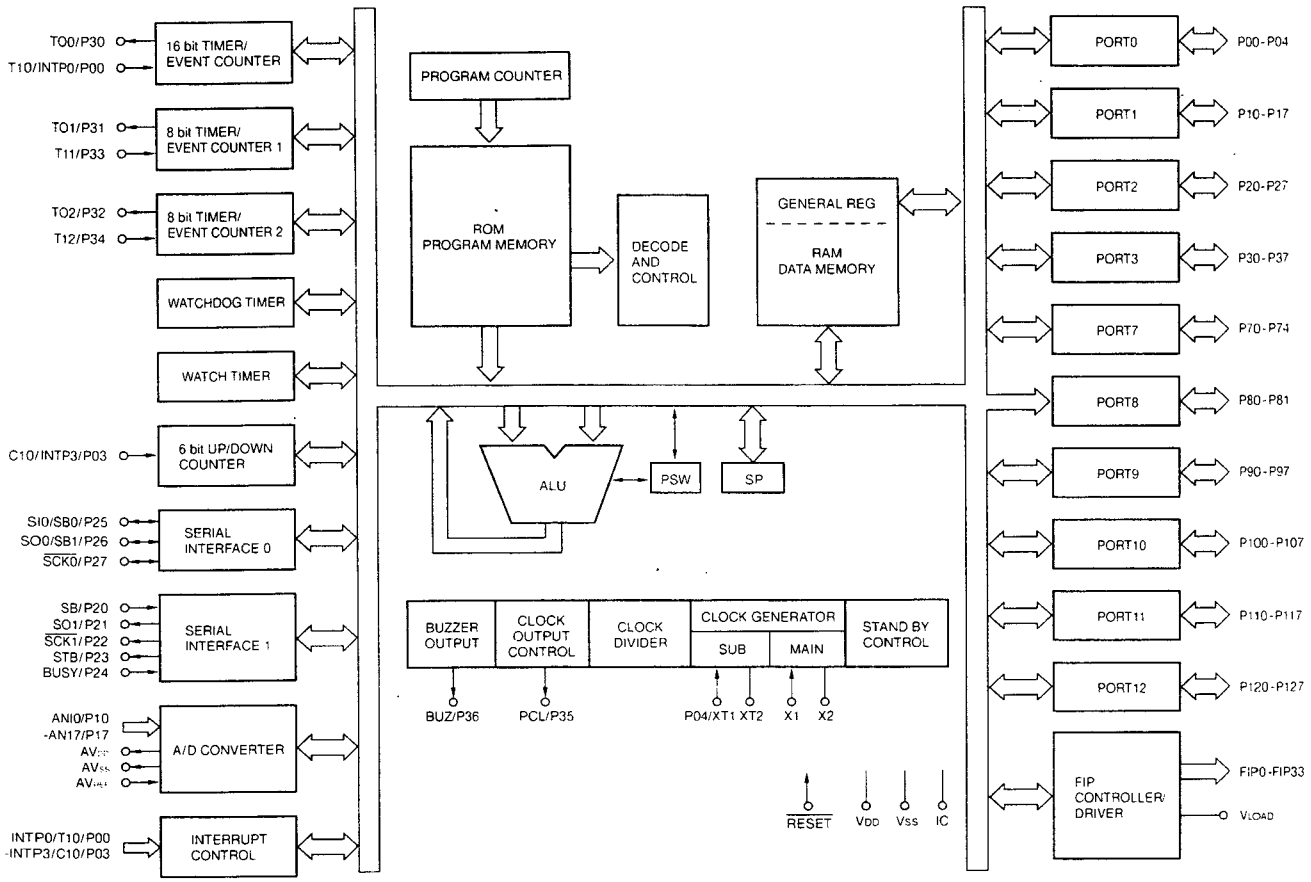
IC4 : TDA7330BD



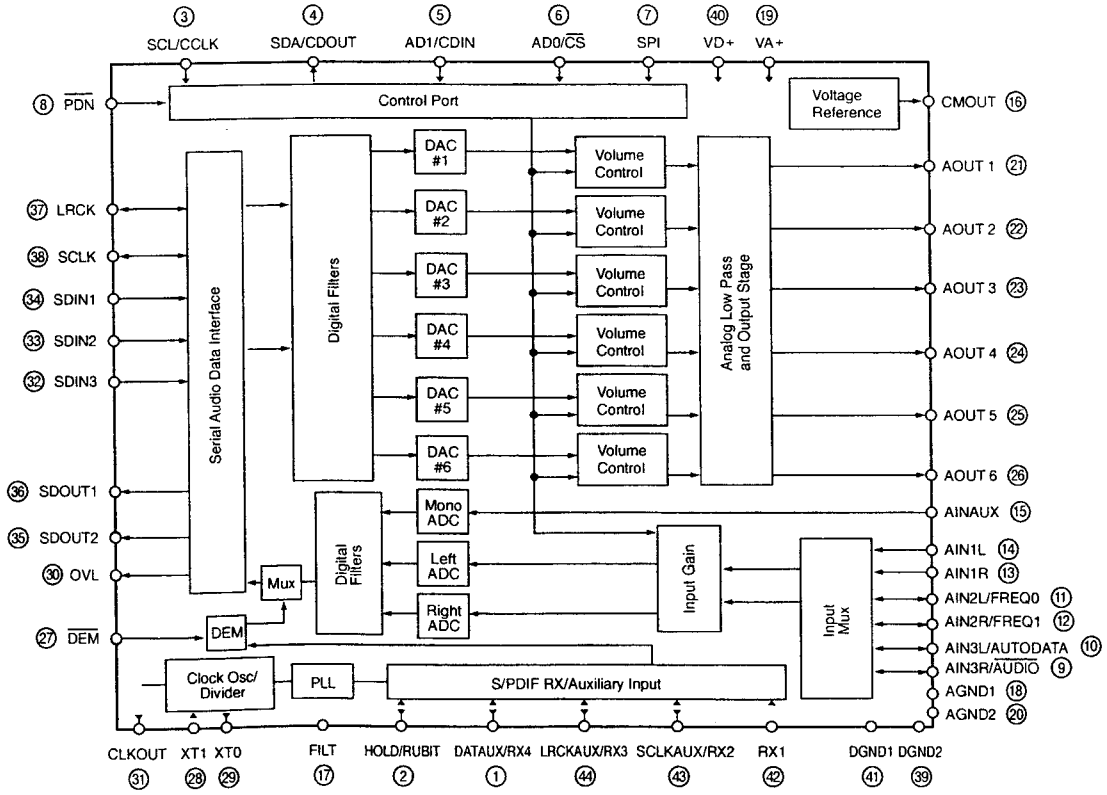
IC5 : LC7073M



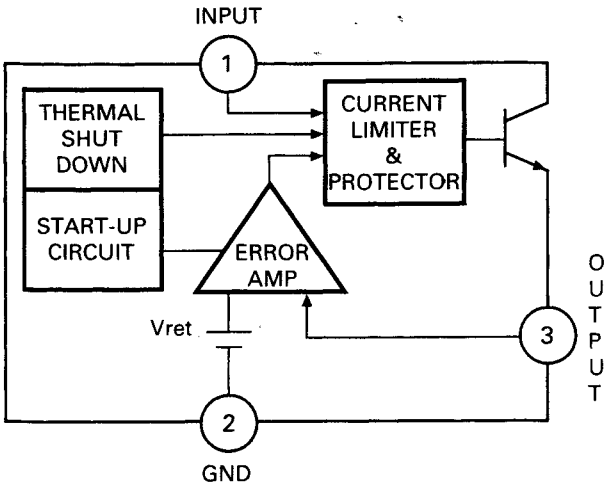
IC14 : UPD78042GF



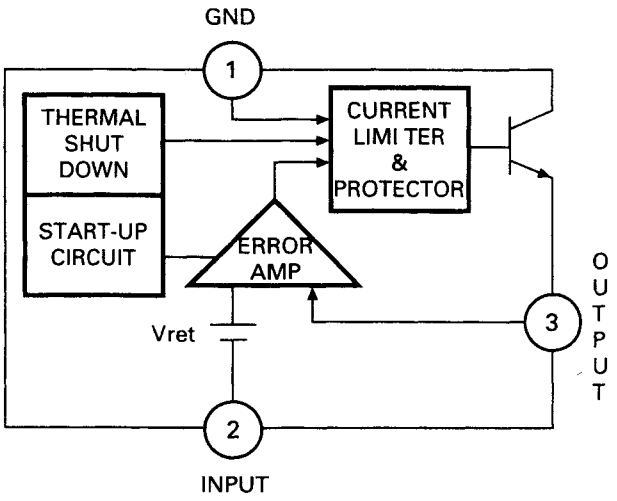
IC4 : CS 4226A/D



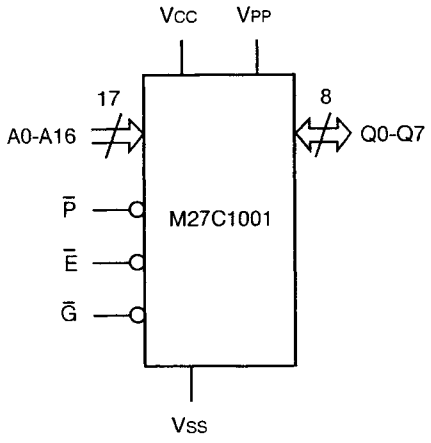
IC101, 104 : KIA7806
IC102 : KIA7815
IC108/110 : KIA7805



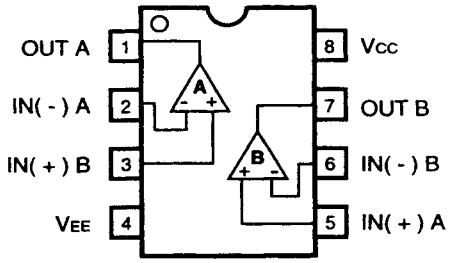
IC103 : KIA7915
IC105, 109 : KIA7905



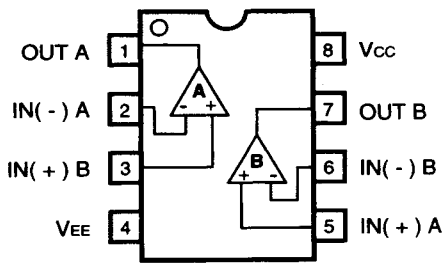
IC20 : NM27C010



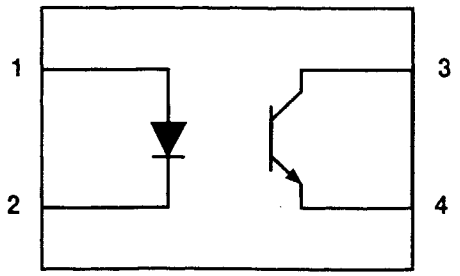
IC402~404 : KIA4559P



IC13, IC8, 5, 9, 601, 506, 507, 511, 512, 514, 516, 517 : NJM2068

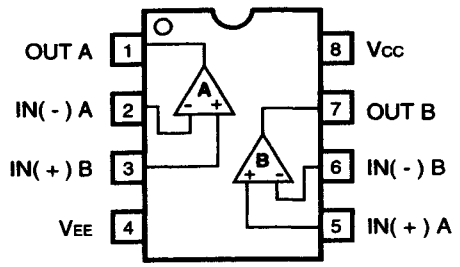


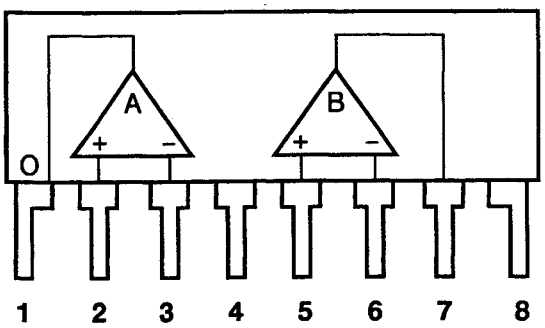
IC107 : LTV817



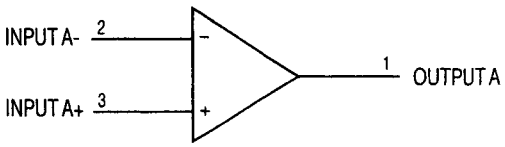
1. Anode
2. Cathode
3. Emitter
4. Collector

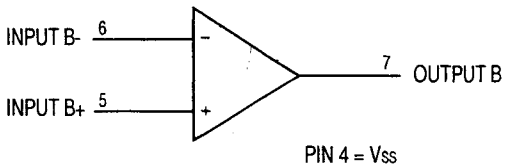
IC 513, 509/510, 515, 518/519 : NJM4580





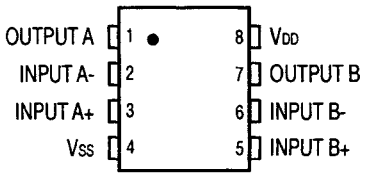
IC7, 854, 855, 803, 804 : MC14577



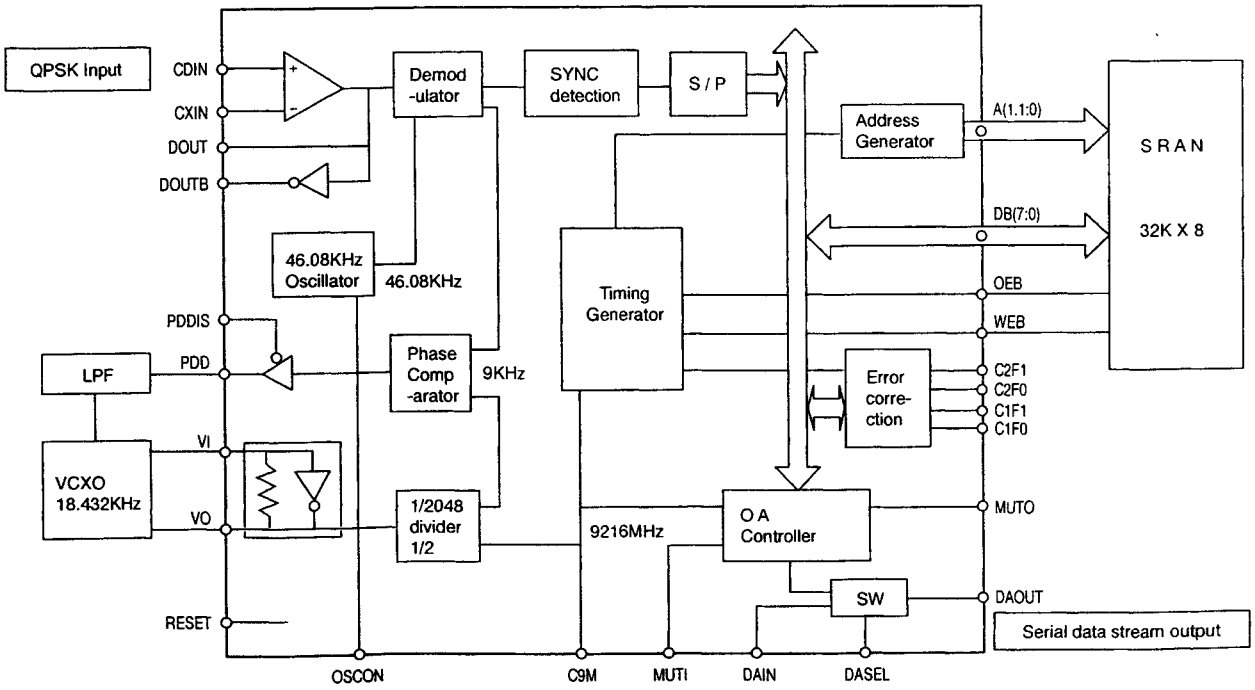


PIN 4 = V_{SS}
PIN 8 = V_{DD}

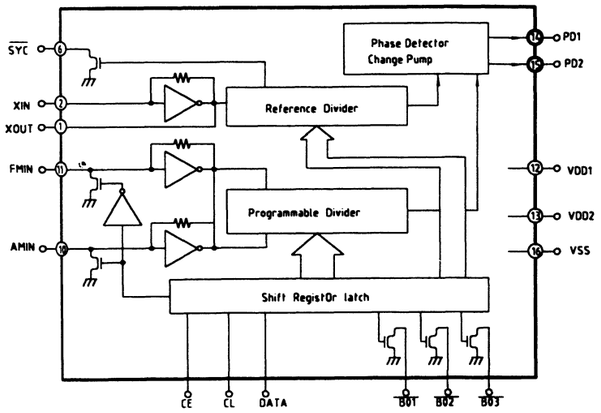
PIN ASSIGNMENT



IC11 : PM4007A



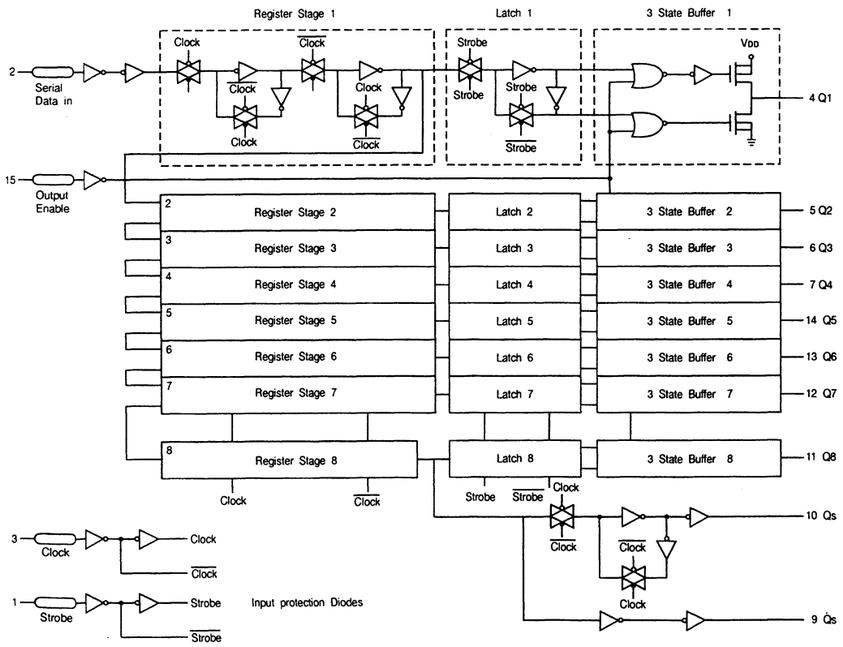
IC 1 : LM7001M



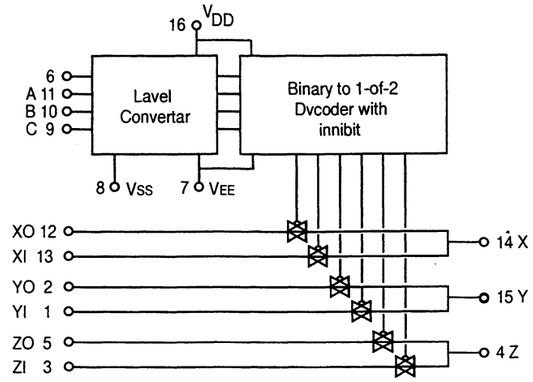
Pin Name

No	LM 7001	LM7001M
1	XOUT	XOUT
2	XIN	XIN
3	CE	NC
4	CL	CE
5	DATA	CL
6	SYC	DATA
7	B01	SYC
8	B02	B01
9	B03	B02
10	AMIN	B03
11	FMIN	NC
12	VDD1	AMIN
13	VDD2	NC
14	PD1	FMIN
15	PD2	NC
16	VSS	VDD1
17		VDD2
18		PD1
19		PD2
20		VSS

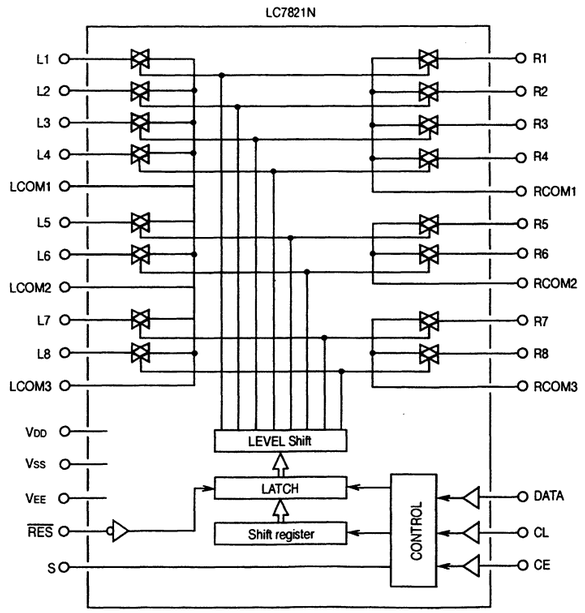
IC106 : MC14094B



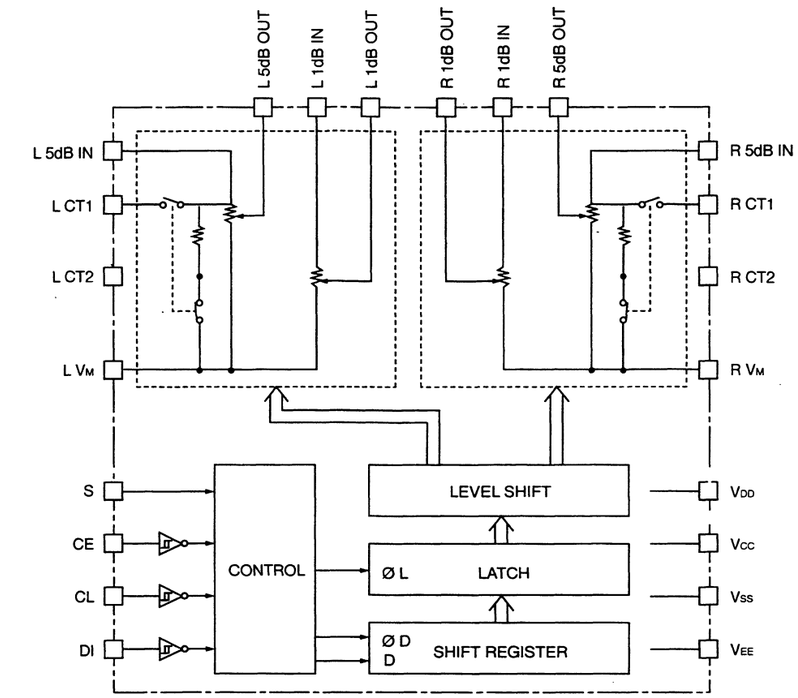
IC451, 502 : MC14053



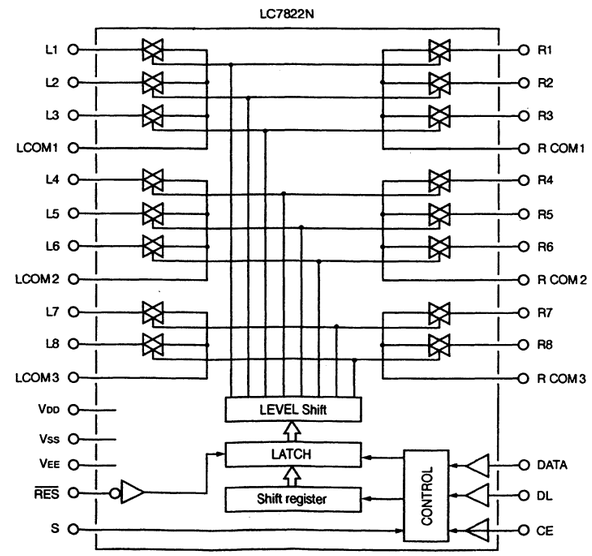
IC401, 450 : LC782IN



IC 503, 504, 505 : LC7536

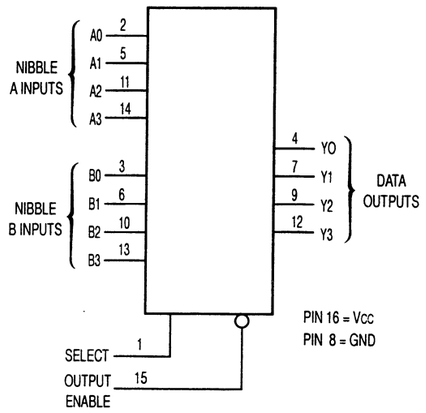


IC501 : LC7822N

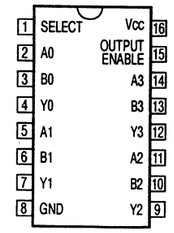


IC6 : 74HC157

LOGIC DIAGRAM



PIN ASSIGNMENT

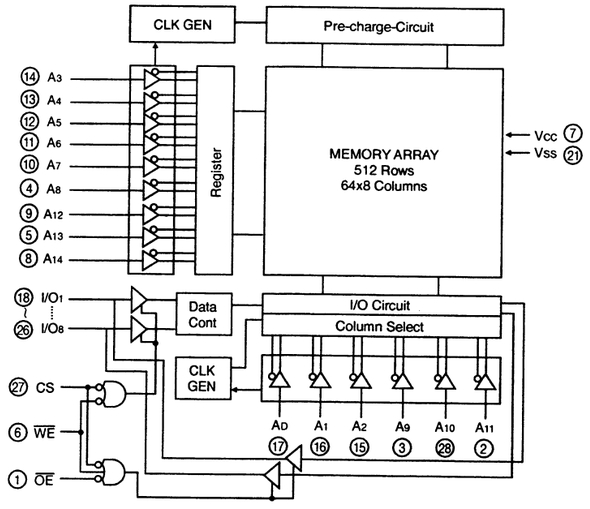


FUNCTION TABLE

Inputs		Outputs Y0-Y3
Output Enable	Select	
H	X	L
L	L	A0-A3
L	H	B0-B3

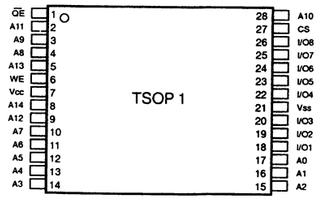
X = Don't Care
A0-A3, B0-B3 = the levels of the respective Data-Word inputs.

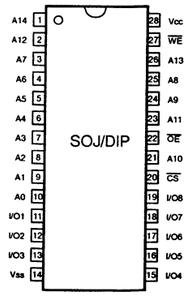
IC 12, 19 : KM 68257 CJ



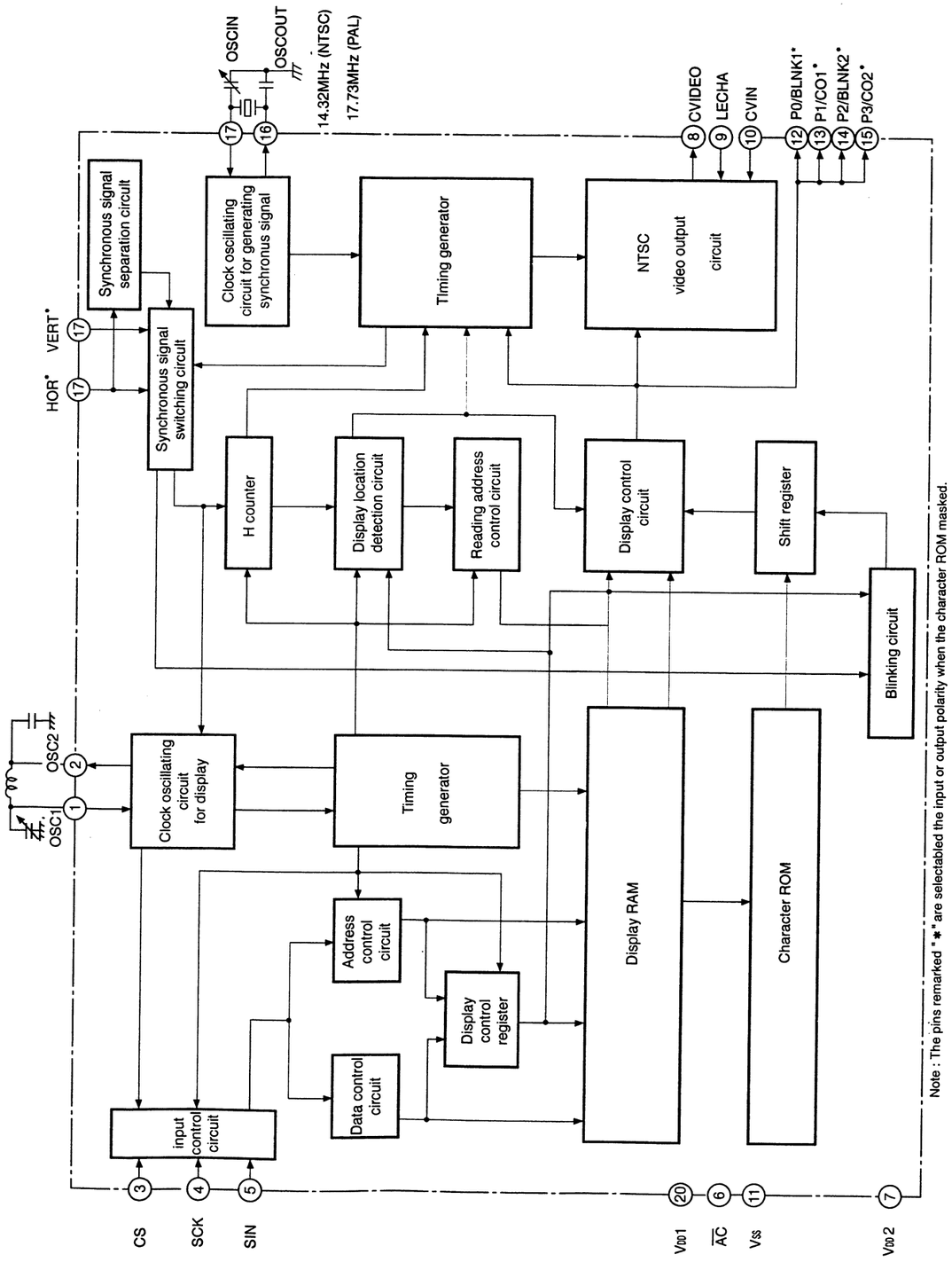
Pin Name	Pin Function
A0-A14	Address Inputs
$\overline{WE}$	Write Enable
$\overline{CS}$	Chip Select
$\overline{OE}$	Output Enable
I/O1~I/O8	Data Inputs/Outputs
Vcc	Power(5V)
Vss	Ground

PIN CONFIGURATION *(TOP VIEW)*

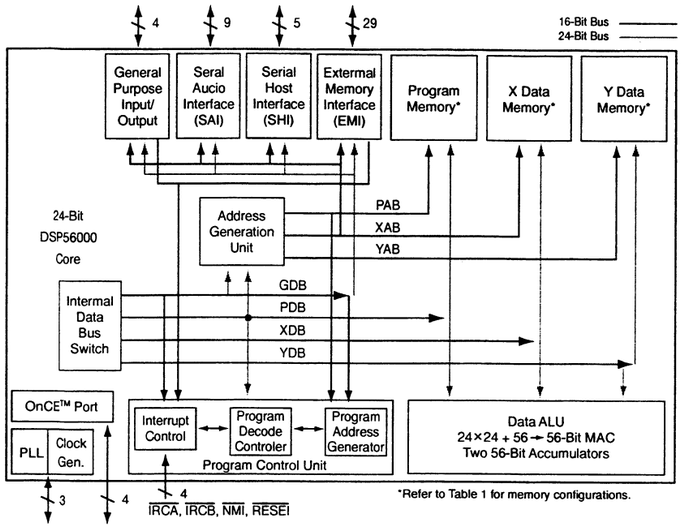


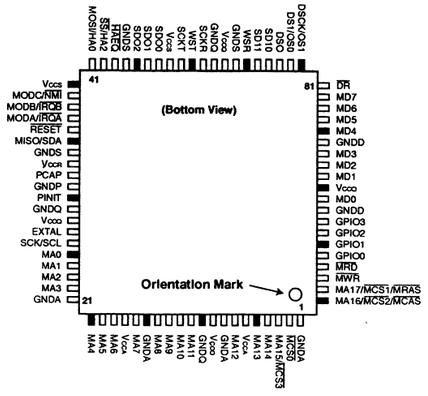


IC806 : M35010-00ISD



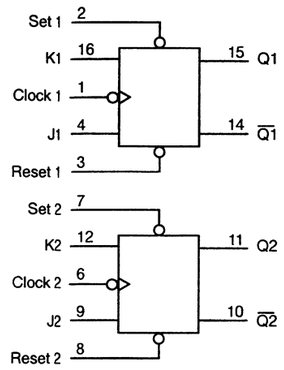
IC1/18 : DSP56009





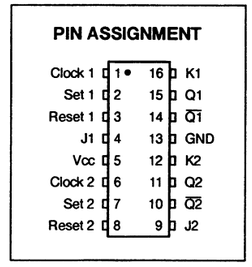
IC 15 : MC74HC76N

LOGIC DIAGRAM



Pin 5 = Vcc
Pin 13 = GND

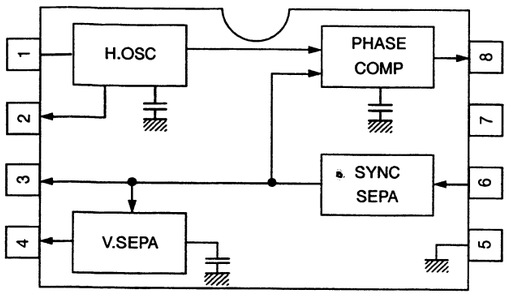
PIN ASSIGNMENT



FUNCTION TABLE

Inputs					outputs	
Set	Reset	Clock	J	K	Q	Q
L	H	X	X	X	H	L
H	L	X	X	X	L	H
L	L	X	X	X	L*	L*
H	H	⌐	L	L	No Change	
H	H	⌐	L	H	L	H
H	H	⌐	H	L	H	L
H	H	⌐	H	H	Toggle	
H	H	L	X	X	No Change	
H	H	H	X	X	No Change	
H	H	⌐	X	X	No Change	

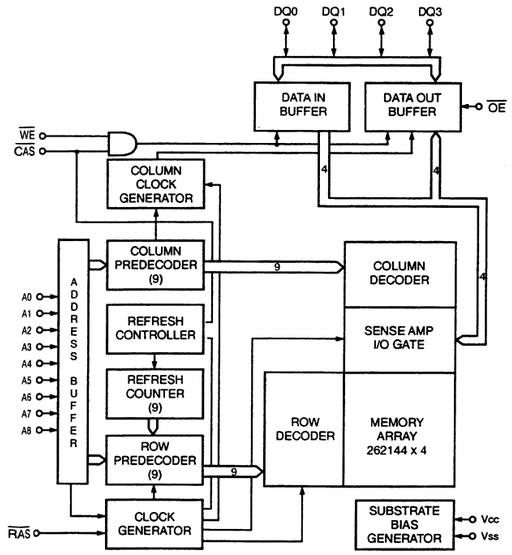
IC805 : BA7046



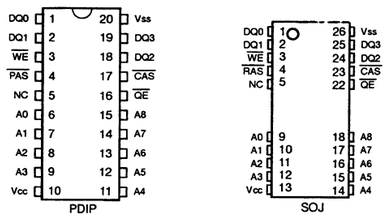
PIN FUNTION

Pin No.	Contests of function
1	Horizontal oscillator resistance pin
2	HD output pin
3	Sync output pin(Open collector output)
4	VD output pin
5	GND pin
6	Video signal input pin
7	Power source pin
8	Horizontal phase detector output pin

IC2, 3 : HY534256



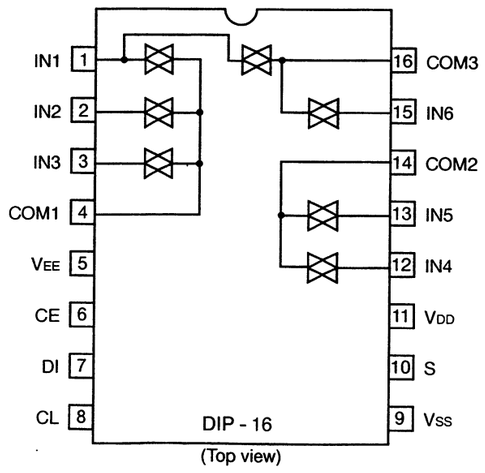
PIN CONNECTION



PIN DESCRIPTION

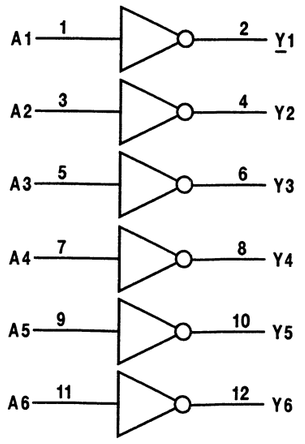
RAS	Row Address Strobe
CAS	Column Address Strobe
WE	Write Enable
OE	Output Enable
A0-A8	Address Input
DQ0-DQ3	Data Input/Output
Vcc	Power(+5V)
Vss	Ground

IC801, 802, 850, 851, 852, 853, 854, : LC7824

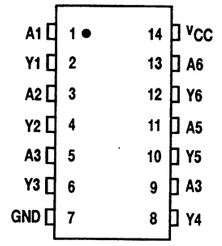


IC 16/17 : MC74HCUO4AD

LOGIC DIAGRAM



PIN ASSIGNMENT

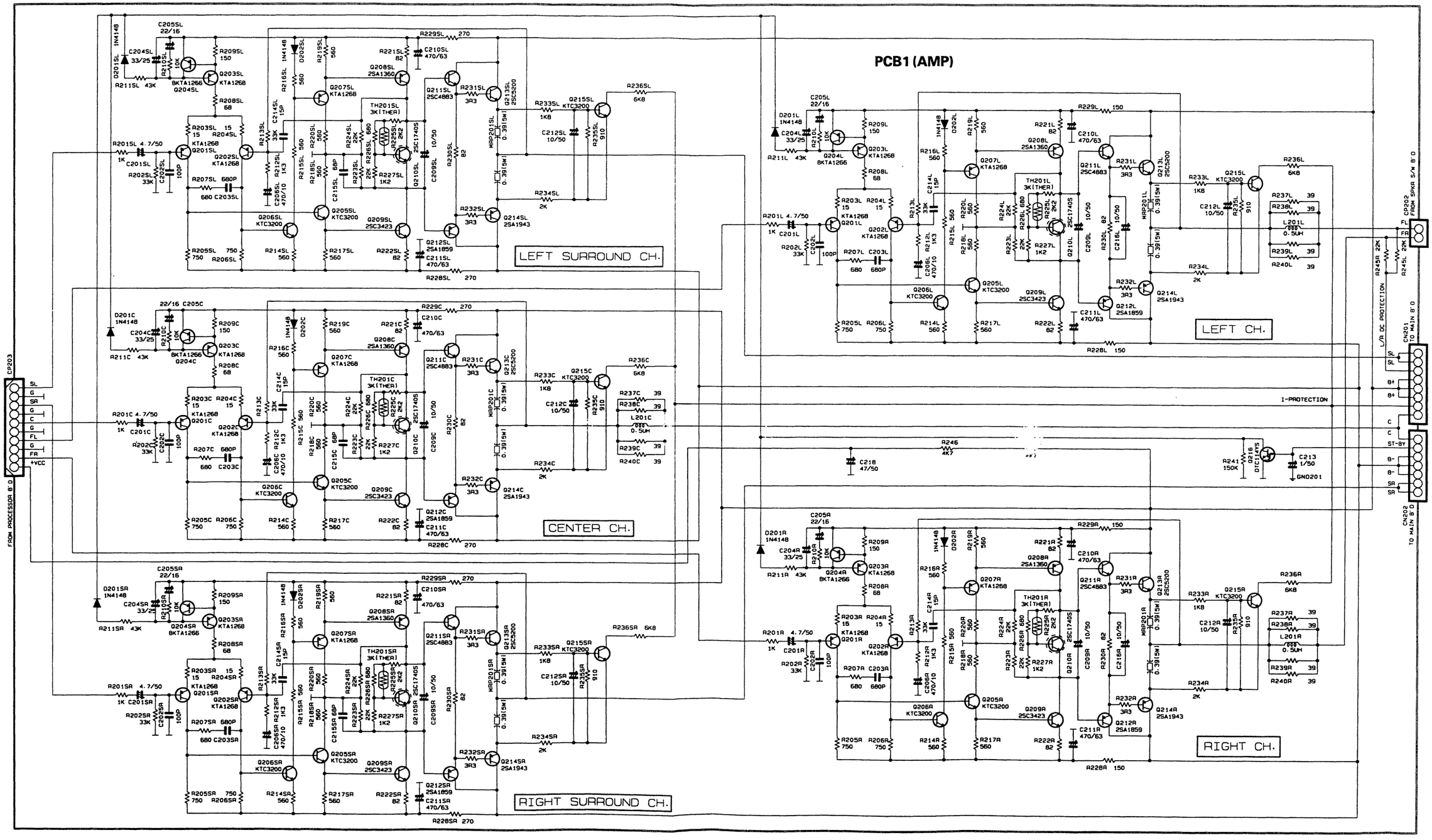


FUNCTION TABLE

Inputs A	Outputs Y
L	H
H	L

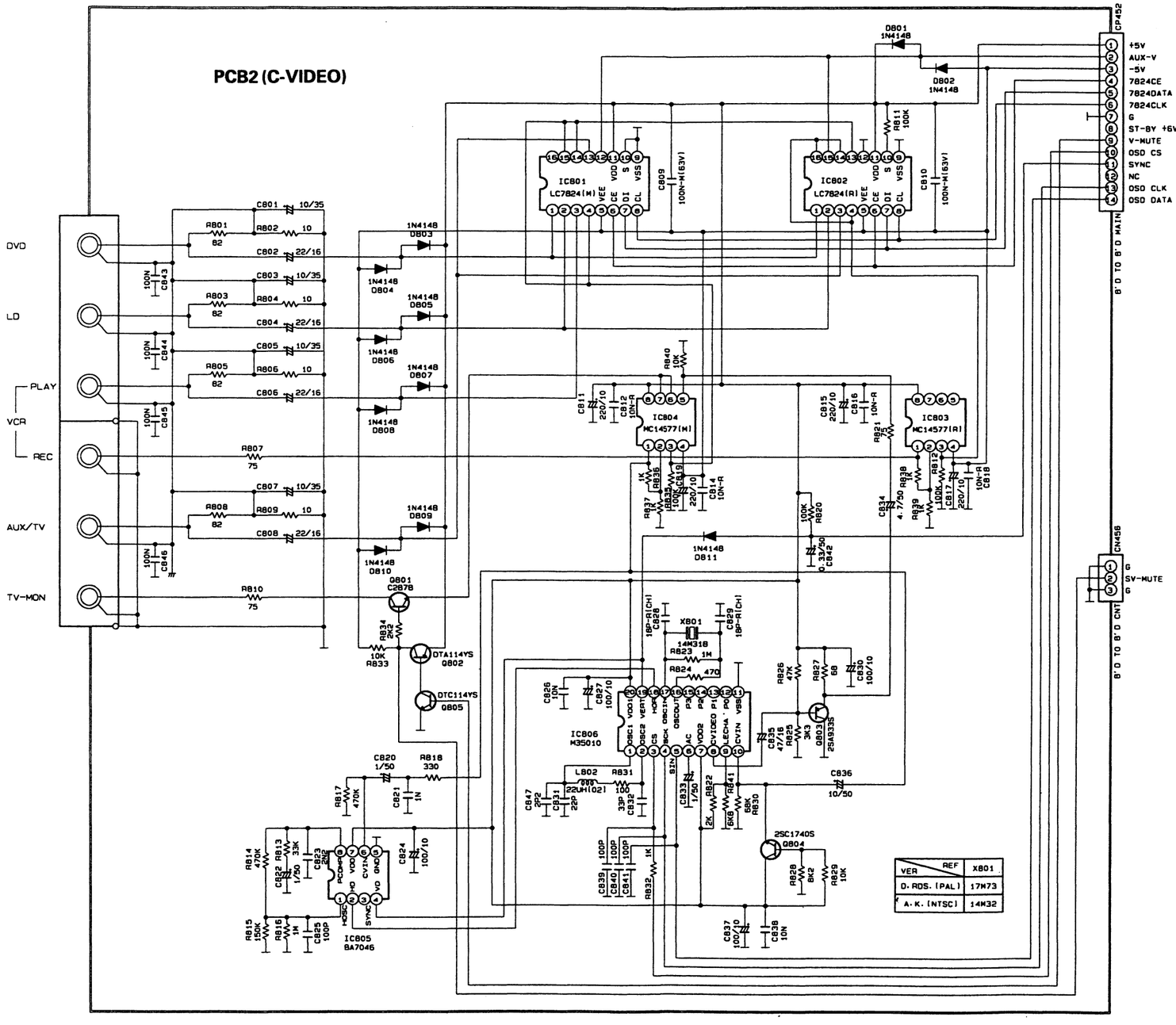
SCHEMATIC DIAGRAM (I)

Model No. : R-945R/R-945RDS



SCHEMATIC DIAGRAM (II)

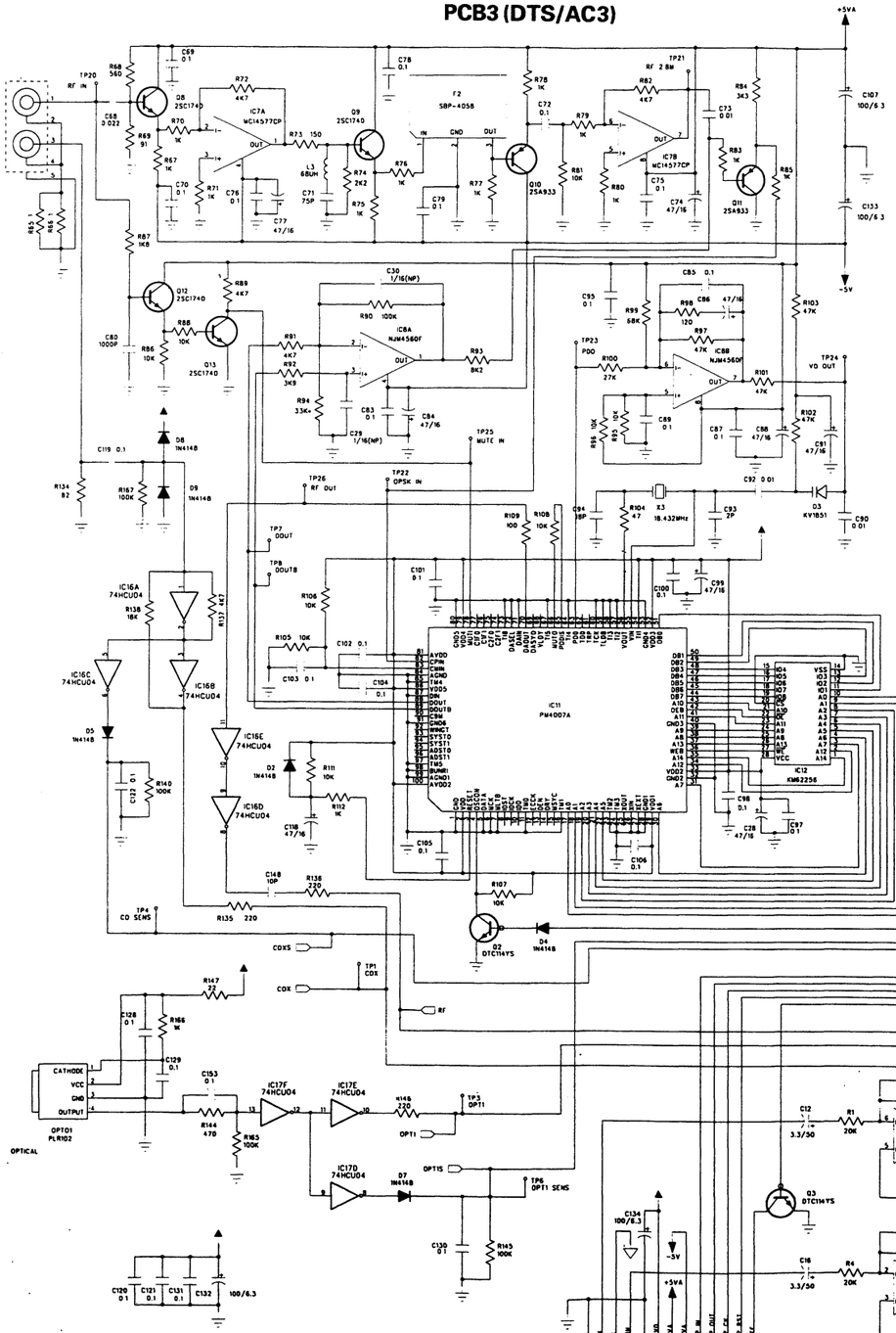
Model No. : R-945R/R-945RDS

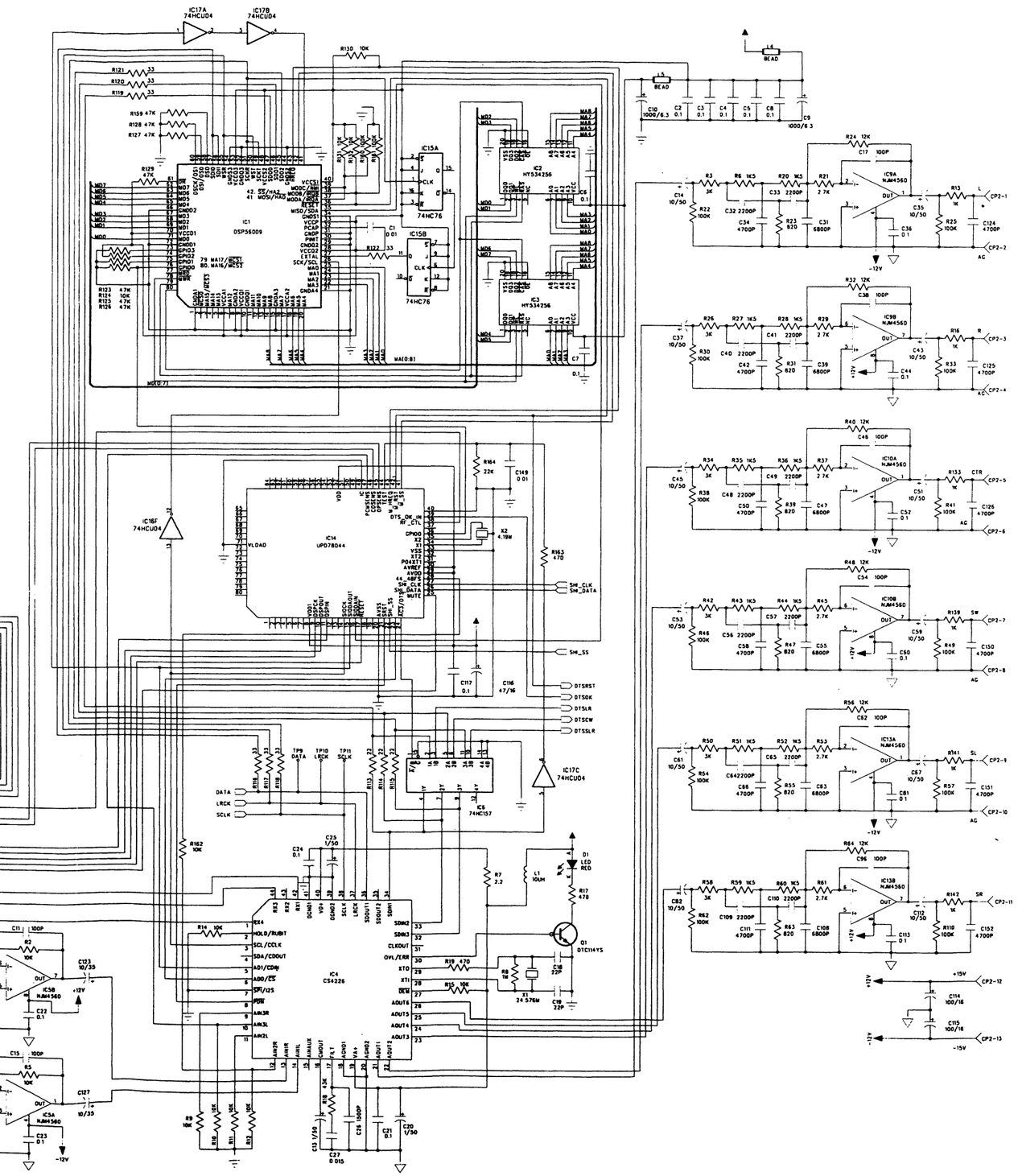


SCHEMATIC DIAGRAM (Ⅲ)

Model No. : R-945R/R-945RDS

PCB3 (DTS/AC3)

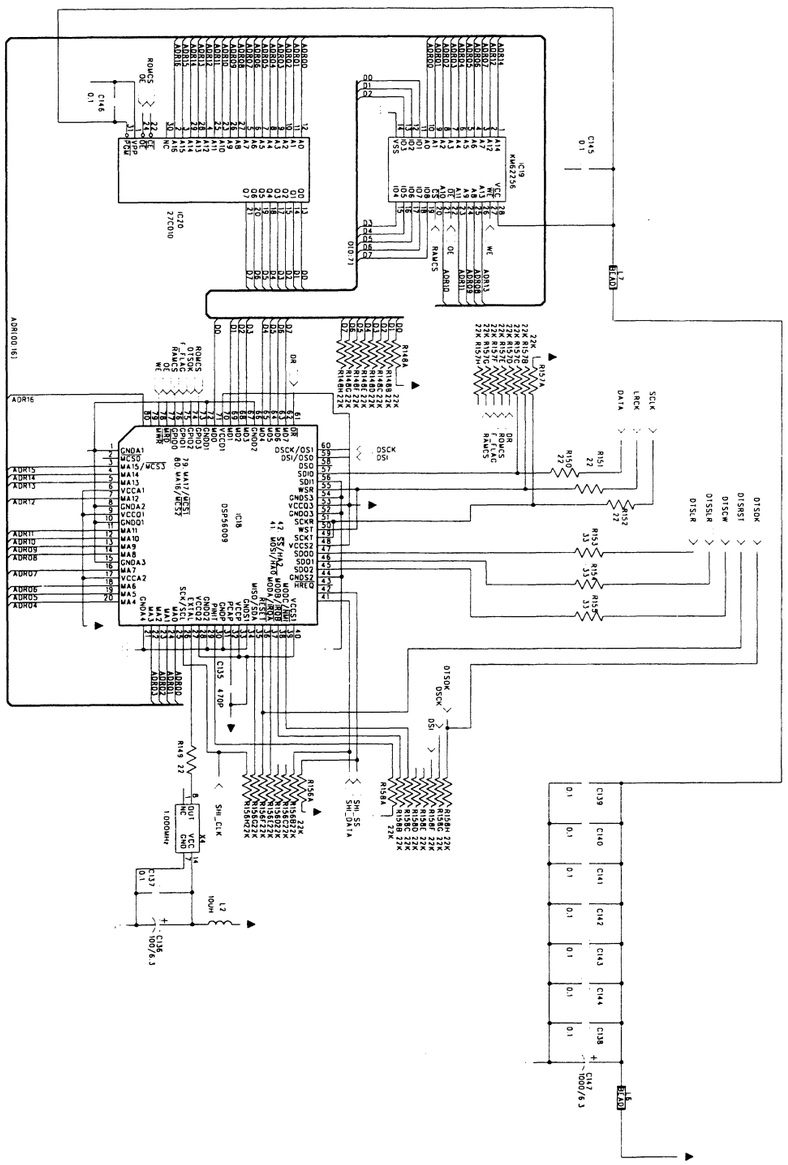




67

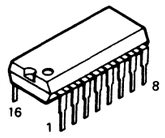
68

DTS BLOCK

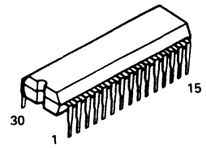


PIN CONNECTION DIAGRAM OF DIODES, TRANSISTORS AND ICS

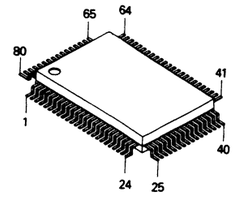
74HC76
MC14053
MC14094



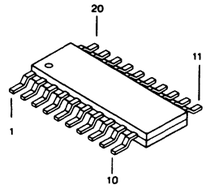
LC7821
LC7822
LC7536



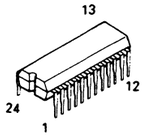
DSP56009



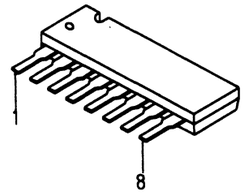
LM7001
TDA7330



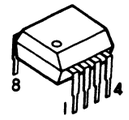
LA3401
LA1266



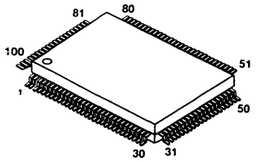
NJM2068



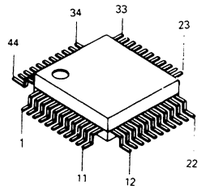
KIA4559P/KIA7555P
NJM4580L



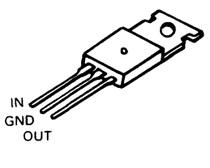
PM4007A



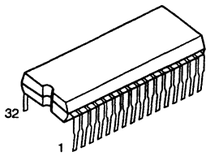
CS4226



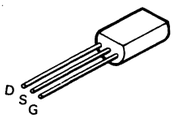
KA7815
KA7806
KA7805



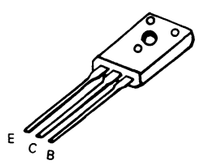
NM27C010



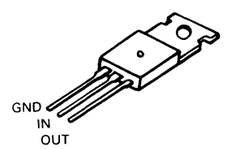
SK117



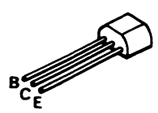
2SA1360
2SC3423



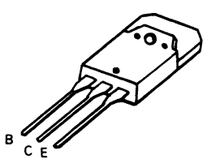
KA7915
KA7905



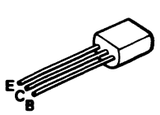
DTA114YS **KRA107M**
DTC114YS **DTC323TS**
2SC3199Y
2SC1740
KTA1267



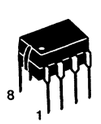
2SC5200
2SA1943



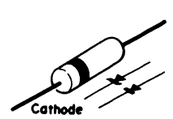
KTC2240/KTC3200
KTC1923Y/KTC3194
KTA1268



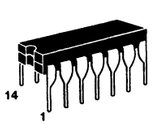
MC14577



IN4003
IN4148

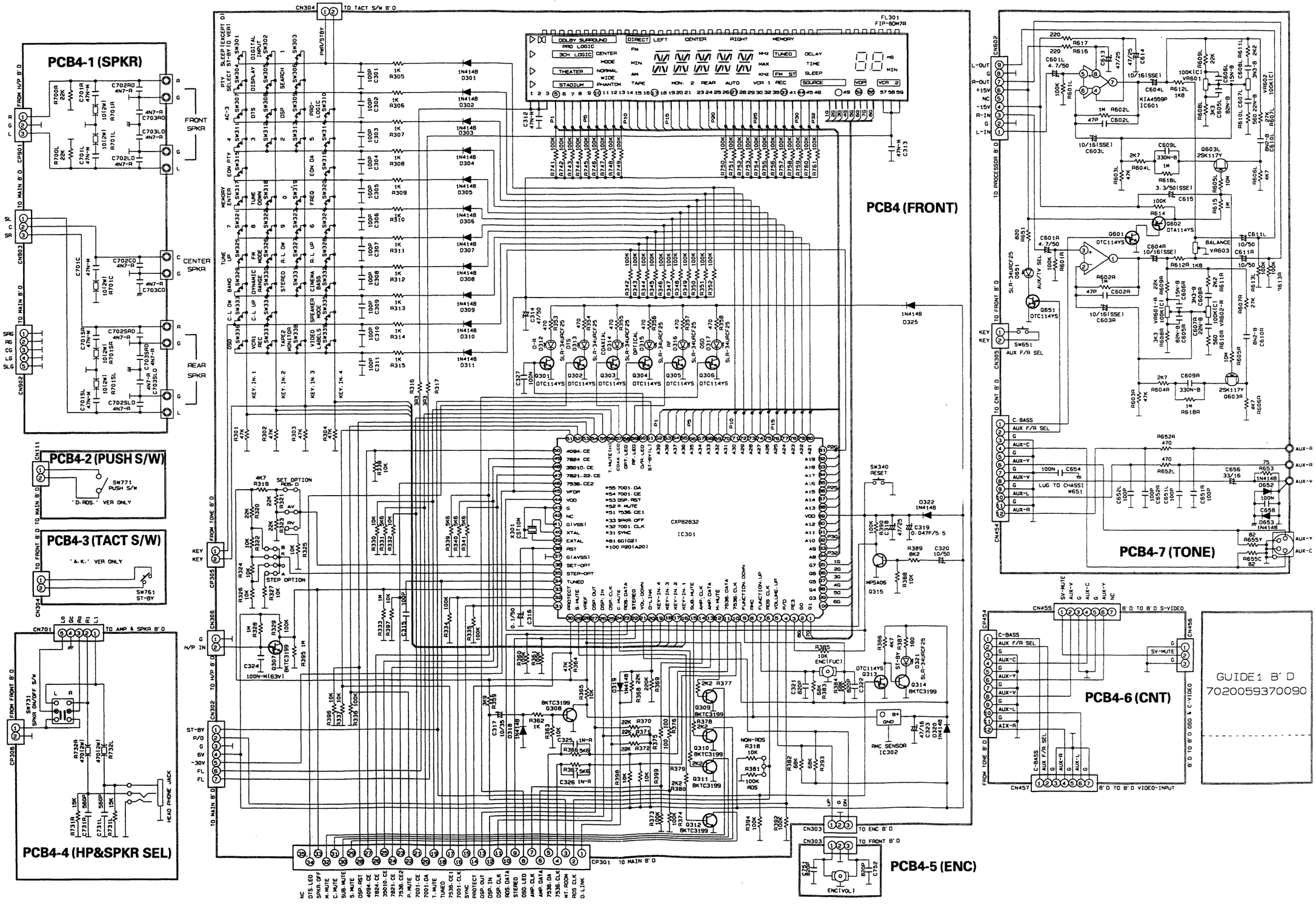


MC74HCU04



SCHEMATIC DIAGRAM (IV)

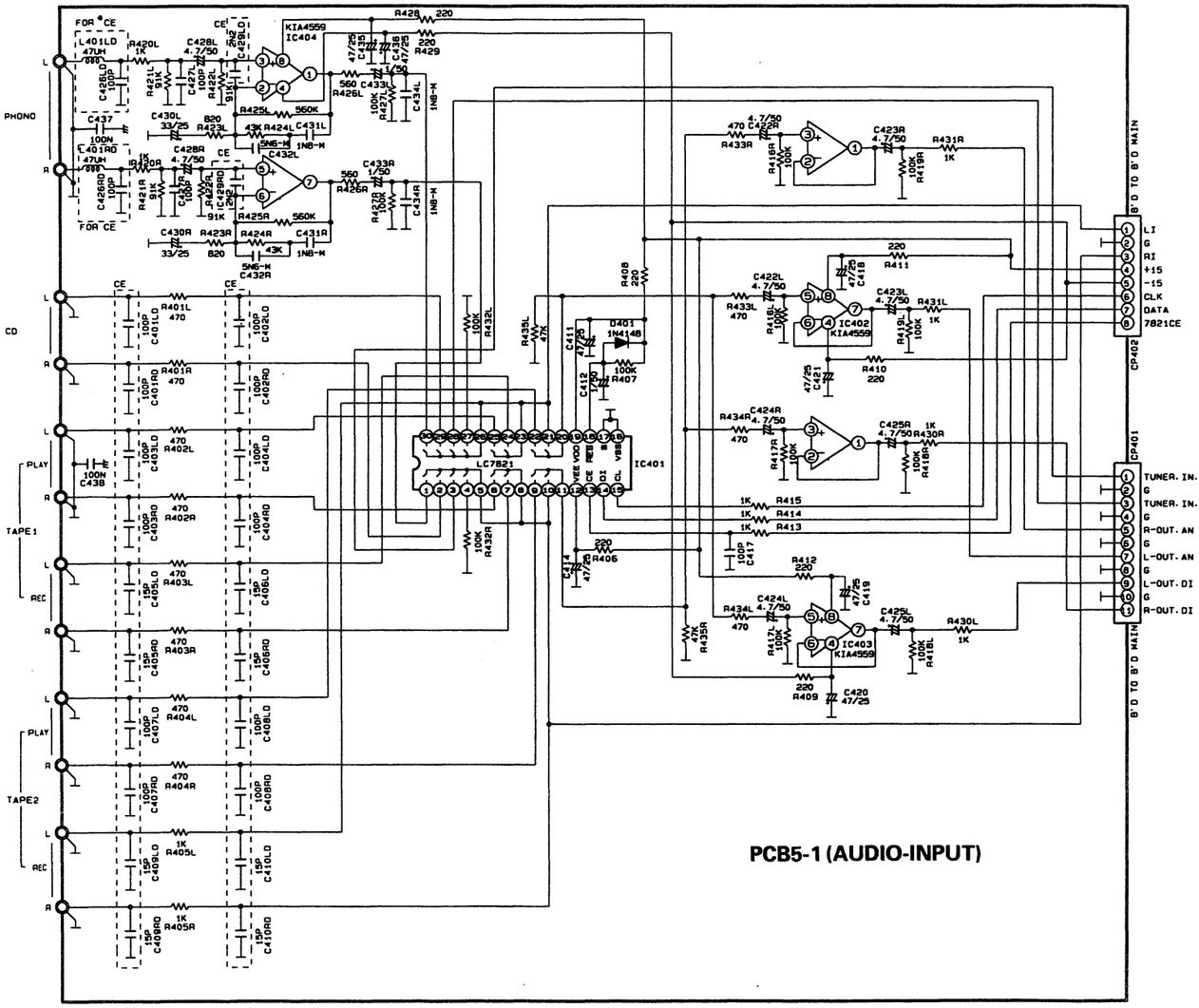
Model No. : R-945R/R-945RDS



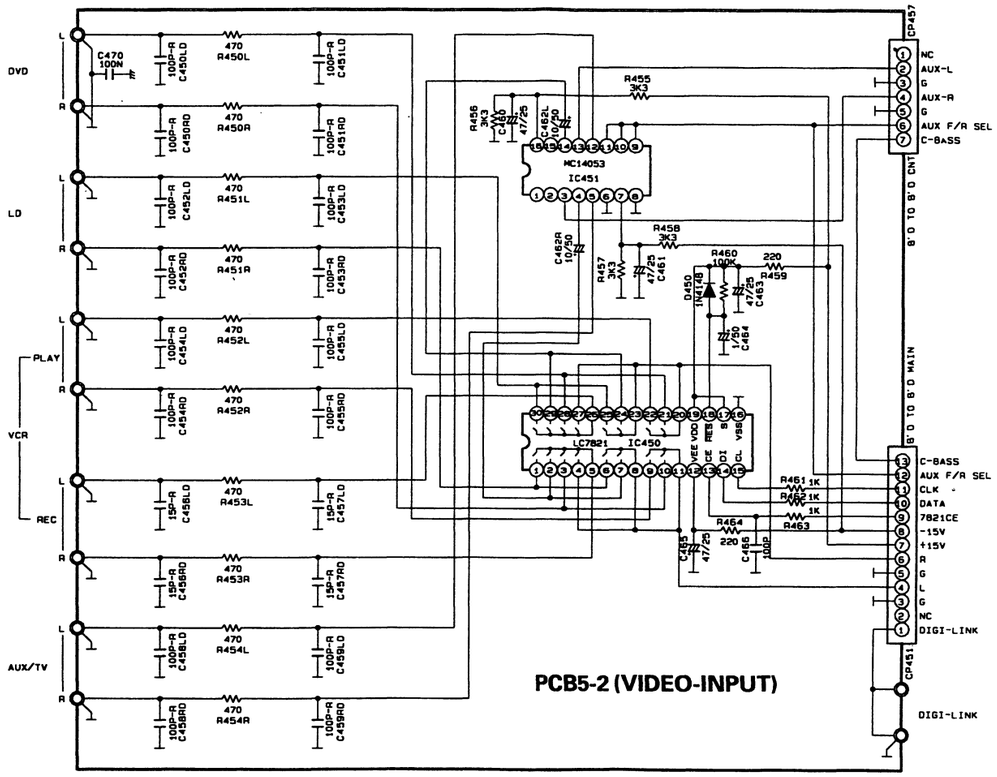
SCHEMATIC DIAGRAM (V)

Model No. : R-945R/R-945RDS

PCB5 (INPUT)



PCB5-1 (AUDIO-INPUT)



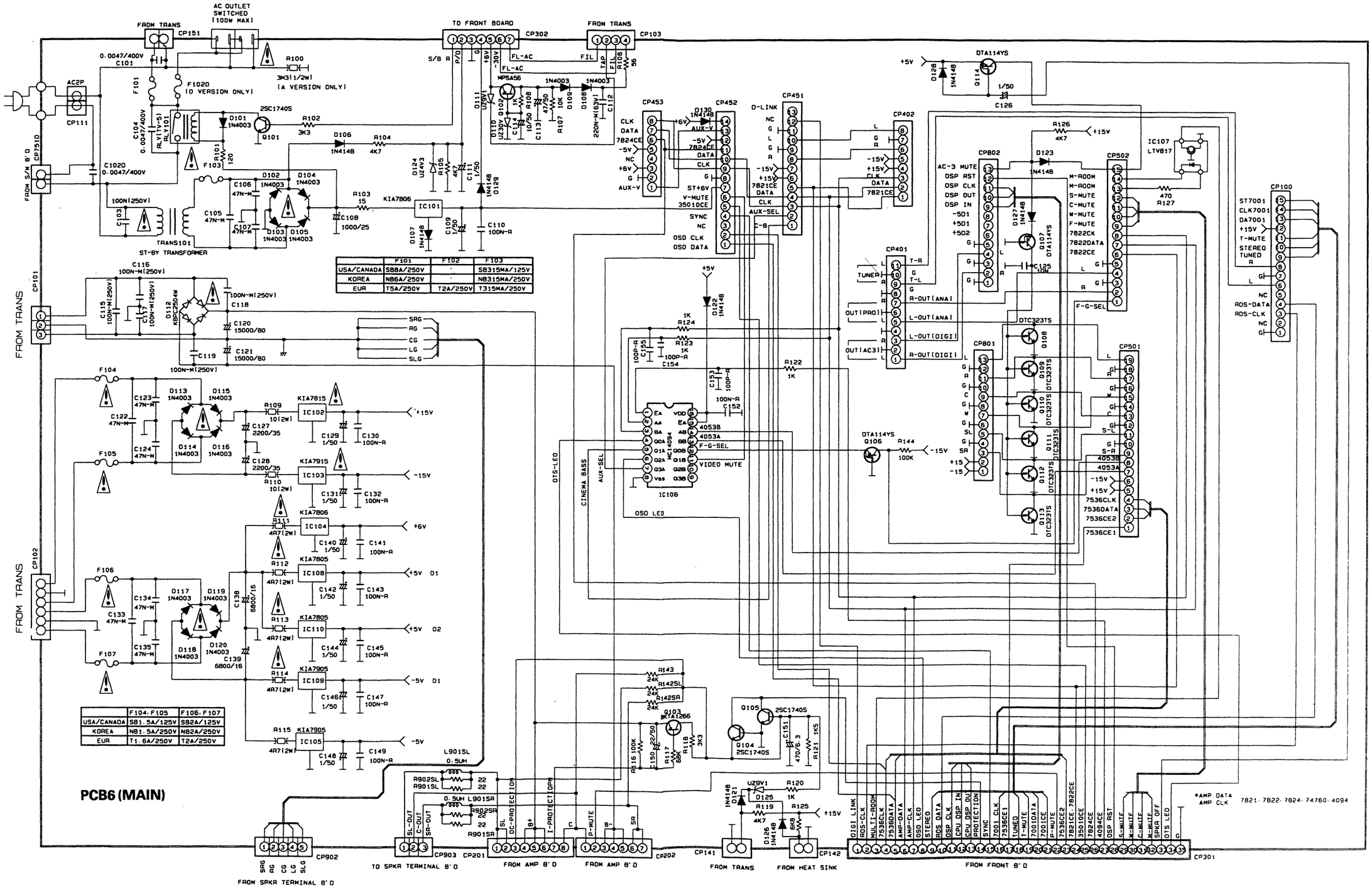
PCB5-2 (VIDEO-INPUT)

7020059380030
AMP GUIDE1 B' D

7020059380040
AMP GUIDE2 B' D

SCHEMATIC DIAGRAM (VI)

Model No. : R-945R/R-945RDS



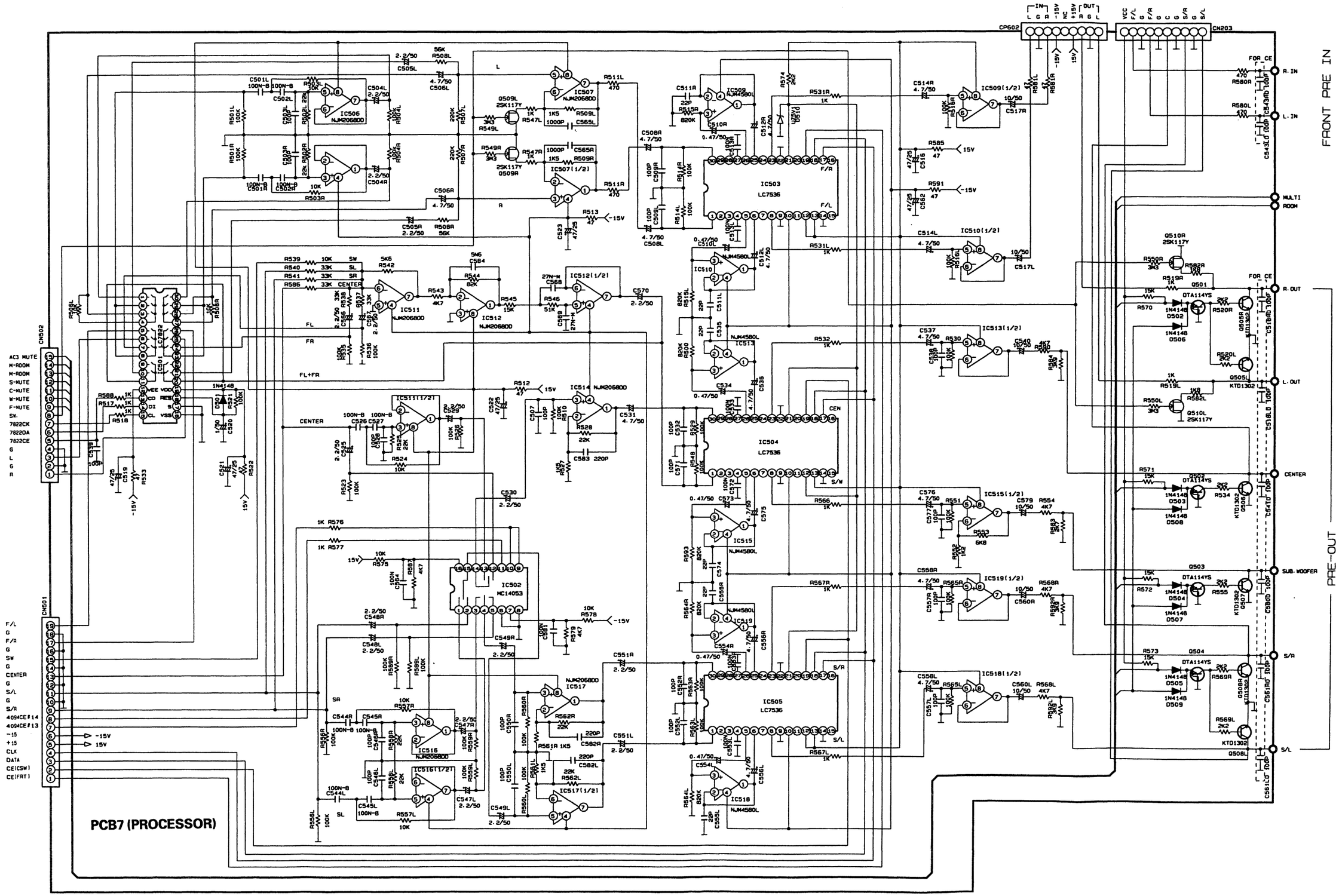
	F101	F102	F103
USA/CANADA	S8A/250V		S8315MA/125V
KOREA	N8A/250V		N8315MA/250V
EUR	T5A/250V	T2A/250V	T315MA/250V

	F104·F105	F106·F107
USA/CANADA	S81.5A/125V	S82A/125V
KOREA	N81.5A/250V	N82A/250V
EUR	T1.6A/250V	T2A/250V

PCB6 (MAIN)

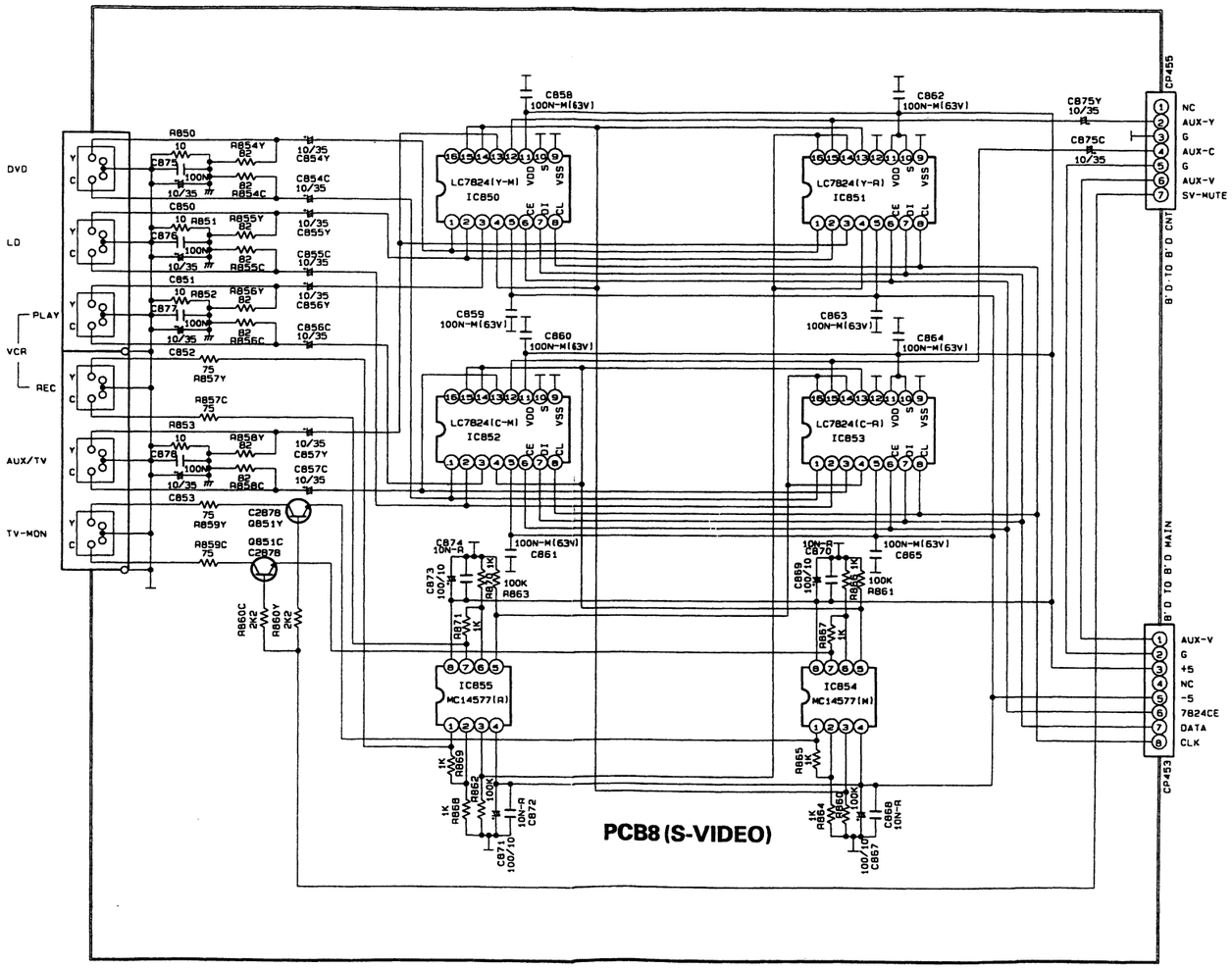
SCHEMATIC DIAGRAM (VII)

Model No. : R-945R/R-945RDS



SCHEMATIC DIAGRAM (VIII)

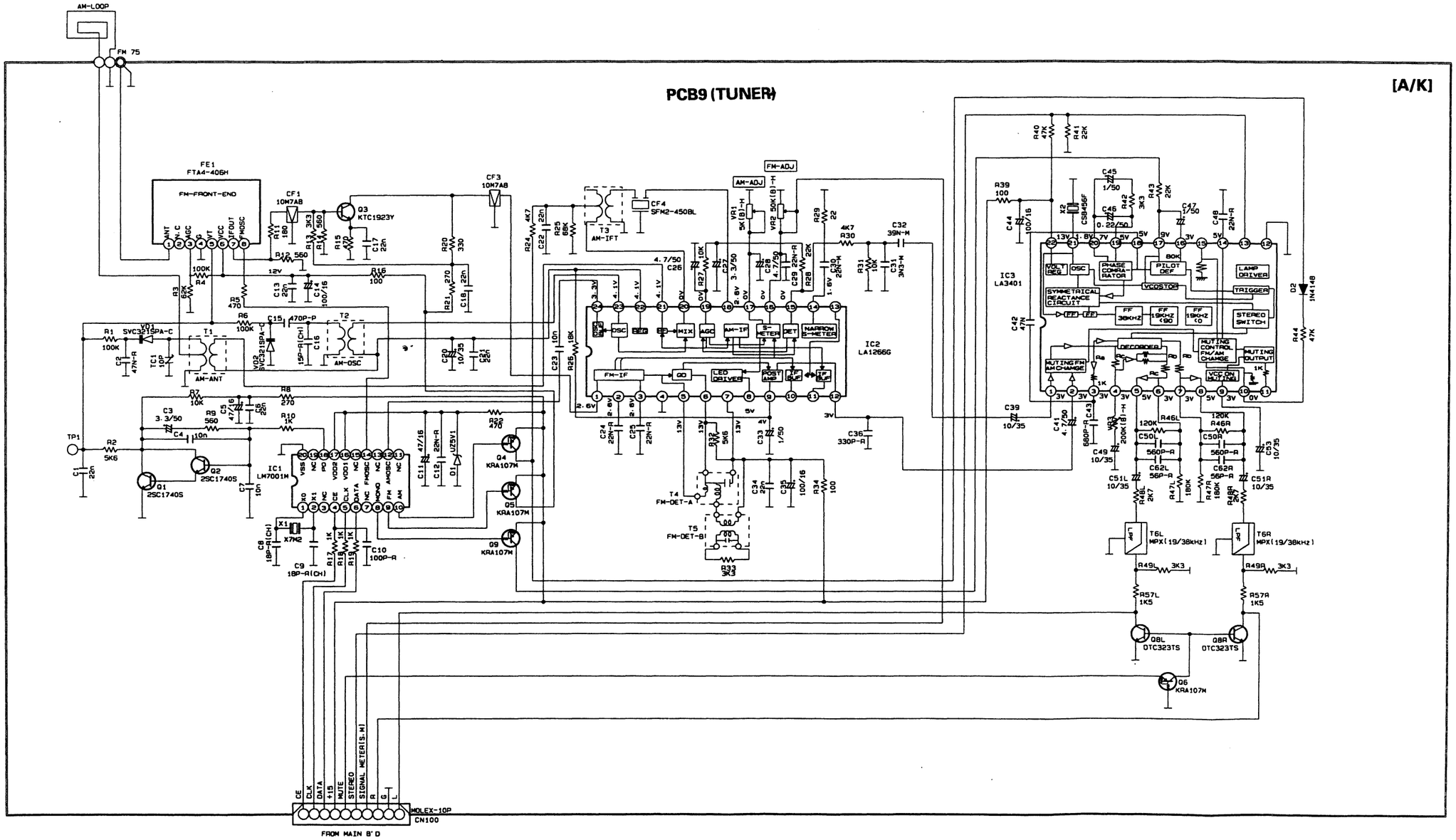
Model No. : R-945R/R-945RDS



SCHEMATIC DIAGRAM (IX)

Model No. : R-945R/R-945RDS

[A/K]



SCHEMATIC DIAGRAM (X)

Model No. : R-945R/R-945RDS

[D/RDS]

PCB10 (TUNER)